THE AMERICAN JOURNAL OF OBSTETRICS
AND
DISEASES OF WOMEN AND CHILDREN
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VOLUME XXII.
1889.

New York:
WILLIAM WOOD & CO., PUBLISHERS,
56 & 58 Lafayette Place.
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It may occur to some present that I have exhausted, so far as my ability, the subject announced upon the programme. I have called the attention of the profession, upon several occasions, to the injuries of the perineum and the methods which appeared to me best suited to its repair.

The importance of the subject, and the differences of opinion yet held by many of the leading authorities both in Europe and America, seem sufficient to make the theme one of marked interest to the profession at the present time, and especially fitting to occupy the attention of this society, whose members are devoted alike to those branches of the profession which include the causes of the injury, as well as the means best adapted for restoration.

I review my own publications upon the subject with more than ordinary satisfaction, since they may be considered as pro-

1 Read before the American Association of Obstetricians and Gynecologists, Sept. 19th, 1888.
gressive phases in the study of a problem which has occupied more than an ordinary share of my attention for a number of years, and to what I now offer in addition, although perhaps not conclusive or final, I invite your consideration and earnest criticism.

All good surgery must be based upon a thorough knowledge of anatomy, and while this is essentially true in the consideration of every operative measure, as, for example, the resection of a bone or the ligation of a vessel, it is especially to be emphasized where the avowed object of the operator is the restoration of the injured parts to their former normal condition. This is the problem confronting the obstetric or gynecic surgeon when he undertakes to deal with lesions of the pelvic floor.

The surgical anatomy of the male perineum may be said to have been practically demonstrated and the subject long since exhausted. It is a "sine qua non" to the graduation of every medical student, and properly so, because of the importance of such knowledge in the practice of every-day life, but if this is necessary to the proper consideration of diseases of the male, how much greater the need of a familiar and accurate understanding of the pelvic organs, their relationships and supports, in the female?

Here, in addition to the lower segment of the alimentary canal and its outlet, the position and retention of the bladder with its efferent passage, are placed the complex organs of reproduction which necessitate a third and largest of the openings through the pelvic floor. Not alone should this give additional interest and importance to the careful study of the female pelvis and its contents when in the exercise of the ordinary functions of life, but especially when we take into consideration the physiological changes occurring during pregnancy and parturition—conditions so important and which occupy so large a share of the attention of the profession and demand from its members often the exercise of highest skill and ability. If happily the recovery from parturition renders danger to life no longer imminent, yet every practitioner listens to the almost daily complaint of suffering dependent upon injury of the parts involved and the reflexive nervous disturbances resulting therefrom.

To those whom I am now addressing, it seems almost superfluous to make reference to these complaints, since the cases are
so very common where injuries to the vulvar outlet have caused years of semi-invalidism, overlooked by the superficial observer. This happened, since there was no visible prolapse and the proof of the correctness of causation is found in the fact that a permanent cure follows the restoration of the parts.

The description of the anatomical structure of the pelvic floor, in most of the text-books, appears to me faulty, and on this account much confusion occurs, not only in the use of names applied to certain parts, but especially in involving the whole subject in unnecessary complexity.

The comparison between the component structures of the male and female pelvis shows a closer analogy than is at first apparent. The levator ani in the male is inseparably blended with the sphincter ani. The transversus perinei in a central tendinous line joins with the levatores and sphincter in front of the anus, and anteriorly between this point and the accelerator urinae and erector penis, there exists an irregular space, floored by the deep perineal fasciae, called the triangular ligament of the urethra. This corresponds to the vaginal opening in the female. The erector penis and erector clitoridis are similar in position and function. The accelerator urinae or ejaculator muscle, separated in the median raphe, is not very unlike the sphincter vaginae muscle. The transversi perinei are placed more obliquely in the male than in the female and are often less well developed.

Since the dissections of William Hunter, undertaken to demonstrate the anatomy and the physiological function of the reproductive organs during pregnancy, the most valuable contribution to the proper understanding of the anatomy of the pelvic structures in the female are those of Dr. Henry Savage, of London. These studies, supplemented by the important teachings derived from frozen sections, greatly modify the previous views of the physiological relationship of the pelvic organs. The depth of the perineum is less than usually described. The axis of the anus cuts that of the vagina at nearly right angles, and leaves in the external angle an irregular flattened portion of tissue, rarely when examined upon the living subject more than one-half an inch in thickness. In the nulliparous woman, this is clearly defined as a firm portion of the pelvic floor, and is composed of skin, fat, elastic and connective tissue, transverse muscles sustaining fascia, and the anterior portion
of the sphincter ani. The vaginal side is usually slightly concave, and the rectal side is convex, owing to the interblending of the sphincter ani. If the finger is carried just within the perineum proper, and a little to either side, there can be felt the firm inclosing band of the levator attachment to each rami of the pubes above, and descending to join with the posterior fibres of the sphincter ani and coccyx. In the perineum posteriorly this is firmly interblended upon either side with the transverse perineal muscles. These are under the control of volition in considerable degree, and, acting conjointly, serve to draw the vagina forward on to the pubes.

The parturient and fecal canals are supported in the pelvic basin in close apposition, and the functional relationship is often such that the one may encroach upon the other, in a way so as to occupy nearly all the space accorded to both. This is especially true in parturition, when the rectal space is reduced to a thin folded tube; and often, in elderly women, the rectum becomes saecated, pushing forward the posterior vaginal wall, forming a considerable sized external tumor. The pelvic floor is so formed and blended about these openings that it not only properly supports these tubes, but also materially aids them in their physiological function. In intimate relation to both are the bladder and uterus in their ever-varying functional activity, and each is surrounded by a delicate plexus of nerves and vessels.

The sacral prominence throws a large proportion of the abdominal weight upon the symphysis pubis and the recti muscles, in the support of the body, and thus relieves the pelvic basin and takes off undue strain upon the pelvic floor. The rectum is rarely entirely empty, is circular in shape, serves the digestive apparatus, in a measure, as a constantly receiving reservoir and, when not distended, may be felt from the vagina as a tube curving posteriorly. It is suspended and supported—slung, so to speak—by the levator ani muscles which hold the vagina in their encircling loop. On the contrary, the vagina, entirely unlike the earlier diagrams, is flattened antero-posteriorly upon itself, and in health its walls are, when at rest, ever in close apposition. The vagina joins with the vulva at right angles to its lateral opening at the entrance of its passage through the pelvic floor. The vulvar organs are all intimately blended with, and go to form a part of the perineum proper. On
each side of the vaginal orifice are the erector clitoridis, the bulbo-cavernosus, and the transversus perinei muscles, and these, with the levator ani, make up, in large measure, the pelvic floor. The bulbi vaginae and Bartholine glands are covered by these muscles with their erectile plexus of vessels, abundant distribution of lymphatics and nerves. The erector clitoridis and bulbo-cavernosus muscles, with the transversus perinei, join on each side to constitute the ovate muscular vaginal orifice, and, in their conjointed action, perform a very important physiological function in sexual congress, often under-estimated or ignored. Their impaired function frequently underlies certain reflexive nervous conditions, distinctly pathological, which are easily overlooked, but are the cause of much suffering and unhappiness.

The much discussed, so-called perineal body has, in my opinion, misled some of our prominent authors into false positions, and caused great confusion and misunderstanding among physicians. I have been criticised, in emphasizing the muscular floor of the pelvis, that I underestimate the importance of the variously distributed connective tissue and fascia. This is not by any means my intention. The superficial perineal fascia, in its deep layer in the male, as well as in the female, covers and incloses the transversus perinei muscles, forming strong ligamentous transverse bands uniting in the perineum, designated by Savage as ischio-perineal ligaments.

The pubo-coccygei, acting in unison with the other muscles of the pelvic floor, draw forward and thus aid, not only in closing the rectum, but hold both it and the vagina in the anterior curve, so important to be retained for the preservation of normal function. A horizontal section, made through the floor just above the sphincter vaginae and posterior to the junction of the transversus perinei, shows the deeper fibres of the pubo-coccygens, united in a loop, behind the lower border of the rectum, holding it from the fixed point at the pubes, as in a sling. This loop is connected with the transversus perinei, bulbo-cavernosus, erector clitoridis, sphincter vaginae, and sphincter ani muscles by strong layers of connective tissue, the importance of which, for union and support, cannot be readily overestimated.

Upon the posterior wall of the vagina, in its lower third,
longitudinal muscular fibres are found external to the circular layer, and these intimately blend with the pubo-ococygeus, giving a firm support to the vaginal outlet quite as the outer longitudinal fibres of the rectum unite with the deep layers of the sphincter ani.

The physiological action of the muscles thus grouped serve to draw the rectum forward toward the pubic arch and approximate it in close relation to the urethra, and this explains, in large degree, why the circular fibres of the vagina, left free to act in other directions, are found intra-folded laterally, making in cross section an imperfect figure II, first pointed out by Freund in 1873. This intra-folding of the vagina, at right angles to the axis of the vulvar outlet, is very important in its relationship of support to the uterus and its appendages. One of America's most distinguished gynecologists takes decided exception to the possibility of the perineum and vagina serving as a uterine support, and that "it would be as rational to assume that a man's pantaloons were supported by the legs resting on the instep or foot."

Fig. 1.
Fig. 1.—External perineal fascia, from photograph.
Fig. 2.—Deep layer of external perineal fascia, from photograph.
When we remember that the promontory of the sacrum is so placed in its relation to the pelvic basin that the superincumbent abdominal weight is thereby deflected upon the symphysis pubis and the recti muscles, we the better understand the protection given, in a normal condition, to the organs of the pelvis and their comparative state of rest, independent of the position of the body. The vaginal axis is normally about parallel to the conjugate of the brim. The anal axis is nearly at right angles with the vagina and on a line with that of the uterus. The urethra, vagina, and rectum are disposed in curves corresponding to the sacral line. Architecturally considered, these are the

lines and disposition of supports adapted to give the least outlay of power to retain the organs in position. This is the more to be emphasized, since the physiological function demands mobility of the organs in conjunction, and also each independent of the other. Viewed from this standpoint, a still farther analysis of the vagina, as a column of elastic support to the uterus, is of interest and importance.

We have already observed that the circular loop of muscular fibres of the pubo-coecygeus, posterior to the anus, carries the rectum forward on to the vagina and changes the vertical
vulvar outlet into an antero-posterior closure of the vaginal canal, and that this again is thrown into two lateral folds. The longitudinal muscular fibres external to the vaginal muscle, and which extend, both in front and behind the vagina, along the distal third, are the chief cause in producing this intra-folding, constituting in large part the so-called columnae rugarum. The letter H shape, thus given to the vaginal column in section, is well known in the arts as the form adapted for the resistance of vertical weight. This elastic column, retained in its shape and position by its basic vulvar and perineal support, in its upper border, is blended with the cervical tissues. The union thus made with the uterus is at

Fig. 5.—Drawing from dissection. u, urethra; v, vagina; r, rectum; l, levator ani. Fibres of the loop more clearly seen upon the left.

nearly right angles to the vagina, and serves to hold the lower segment of the uterus backward, retaining that organ, like a ship at anchor, swung on its lateral supports, with freedom of mobility at its moorings. This vaginal support to the uterus is so effective, in the normal condition, that the cervix uteri is rarely displaced without there first ensues a change in the vagina. Although there are exceptions, of which the scope of this paper will not permit the discussion, the general consensus of medical opinion is that the changes which occur in the vagina usually commence with lesions of the outlet and contiguous tissues, dependent upon parturition.

A weakness in the base of support, the change of muscular action which causes a drawing upward and backward of the
posterior vaginal wall, with an eversion of the vulvar outlet, produces a change in the axis of the vagina, bringing it and the uterus toward a common plane, and then the cervix, instead of being held at right angles, becomes a wedge in line with the vaginal outlet, separating its walls. This change in the position of the uterus causes the weight of the abdominal contents, deflected towards the pubis, no longer to fall upon the organ posteriorly, but vertically, and little by little, following the sacral curve in its descent, prolapsus, with varying degrees of retroversion, ensues.

The injuries of the retro-vaginal pelvic fascia, occasionally occurring in delivery, have been recently deservedly emphasized by Freund, Emmet, Baldy, Hadra, and others. The latter author considers that many of the ill results following delivery are due to injuries of the vaginal fornix and the upper portion of the parturient canal, and are consequently often overlooked.1 "The impacted head, in its further progress, tears loose the upper portion of the anterior vaginal wall from the bladder and from the anterior surface of the cervix, turning it into a loose pouch, which the bladder will have to follow on account of gravity." This, he believes, is the more common cause of cystocele. Hadra has devised certain plastic operations (resections of the upper portion of the vaginal canal) to remedy these injuries.

In a similar manner, the vagina posteriorly is caught in a fold, and protrudes, as a ring, before the advancing head, and in the eversion thus produced it has been assumed, rather than demonstrated, that the posterior folds of the pelvic fascia are sundered, and that the result of the injury may be prolapse with rectocele and deep lateral sulci. Such injuries very probably occur and enter into the sum total of possible damage, but to differentiate and emphasize them as independent of the various muscles which it is their office to hold in proper relation and support; moreover, to base important surgical operations upon their assumed restoration is misleading and unscientific. In a sense, muscle and fascia are equally important, since the one fails in its function without the support of the other.

If the anatomy and physiology of the pelvic floor have been

1 Hadra, The Medical Register, vol. i., p. 611.
correctly described and interpreted, there takes place, in normal parturition, a retraction or drawing upward of the bladder before the descending head, rendered possible by its loose suspensory ligament, until the occiput passes below and is allowed to escape anteriorly to the symphysis. The perineal muscles relax, and descend in a more or less encircling loop, the pressure upon which is not lessened until the occiput escapes. This is not the place to enlarge upon the physiology of parturition, but the above view, especially emphasized by Drs. Simpson and Hart, of Edinburgh, is important in its practical bearing upon

Fig. 6.—Diagram to exhibit the relation of the pelvic floor. * u. urethra; * r. vagina; t. transversalis; r. rectum; c. coccyx; l. levator loop.

the so-called support of the perineum in delivery, wrongly taught in many of the standard text-books. I believe injuries to the perineum are often caused by the earnest but misdirected efforts of the accoucheur, in the desire to preserve the tissues intact.

I have carefully reviewed our present knowledge of the anatomy and physiology of the pelvic floor, since all attempt at a restoration must, in large measure, depend upon our understanding what we mean to restore.

It should be taught as cardinal that the obstetrician has not completed his duty to his patient until he has carefully exam-
ined, in a good light, the vaginal outlet. There is still consider-
erable difference of opinion if an attempt at immediate repair
is advisable. This has been questioned, since the bruised and
raggedly torn tissues seem unsuited for primary union, and the
lochial discharges liable to infect the wound.

Antiseptic midwifery, however, has abundantly demonstrated
the error of such conclusion. When the parts are maintained
aseptic, the union rarely fails, and if by any reason this should
not take place, the patient is rendered none the less fitted for
subsequent operation. The torn tissues are very vascular, ex-
traordinarily developed in preparation for the parturient act,
and paralyzed, in a measure, by the extreme tension to which
they have been subjected. All this favors a rapid plastic
repair. There can be little doubt the time is not far distant
when the patient will rightfully demand of the practitioner as
rigid care in this respect as in any other part of her supervi-
sion.

The primary operation is comparatively simple and often will
not require an anesthetic. A solution of cocaine is frequently
of service. Under irrigation with sublimate solution, the vagi-
nal vault, temporarily lightly tamponed to retain the uterine
flow, with one or two fingers in the rectum, unite the parts with
a deep continuous buried tendon suture. The torn muscles are
not retracted and lie easily in apposition. The deep sutures are
limited to the perineum, and should be so placed as to be cov-
ered by the superficial vaginal line of union and are four or five
in number, taken with the double continuous stitch, hereafter
described. More recently, I have further modified the opera-
tion by commencing at the upper angle of the wound, closing
it by a tendon suture applied as a blind stitch. This is best
effected by a straight Hagedorn needle, lightly but accurately
piercing the connective tissue, beneath the mucous membrane,
from side to side. The sewing is continuous in the same way
over the fourchette posteriorly to the limit of the division of
the skin. Thus the divided edges are brought evenly into
apposition without the vestige of a stitch in sight. The parts,
carefully dried, are dusted with iodoform and covered with
iodoform collodion. The tampon is replaced by a light packing
of iodoform wool and, if the operation is done aseptically, the
repair goes on as in a subcutaneous wound.

If the rupture extends through into the rectum, the lower
bowel having been well washed with sublimate, care being exercised not to allow retention, and tamponed with iodoform wool, the rectal mucous membrane is closed with great care, the stitches being taken continuously as above described. This is carried to the anal opening and the suture left uncut. When drawn sufficiently tense it becomes a buried suture, and the rectal mucous membrane lies in close apposition. The operation is then continued as in incomplete rupture, the deep double suture (the Marcy stitch) also carefully inclosing the divided sphincter. When the edges of the two anterior sides of the triangle have been coapted by the buried suture, the end is joined to the rectal suture in front of the anus. Although I have usually retained the united parts at rest without strain for some days, by the means of a lateral support, as a sort of splint, with parallel pins applied in halves and joined like a safety-pin¹ (previously elsewhere described), in a number of instances I have omitted this support and complete union followed without pain or even edema of the parts.

The operation is to be commended for its simplicity in application, the comfort of the patient, as well as assurance of result. A word of caution may be required that the sutures are not drawn too taut, since retention in easy apposition is to be sought, and constriction of tissue avoided, as even in an aseptic wound injury must otherwise result.

Operations undertaken for the restoration of the perineum, a considerable period having elapsed since the injury, are quite different from primary operations. Here almost always certain secondary changes of adjacent organs have supervened, and, on this account, the patient seeks the aid of the surgeon. Thus new and often difficult factors enter into the problem, and these generally vary to such a degree that each case must be carefully studied as a personal equation.

Perineal lacerations usually commence at the posterior commissure, and may extend even through the recto-vaginal septum. They vary in all degrees, but, for convenience, are divided usually into incomplete and complete ruptures, the latter including an opening into the rectum, involving the sphincter ani. Lack of symmetry is usual, and results from a lateral deflection of the rupture, the posterior columna rugarum usually

¹ American Association Journal, Oct. 27th, 1883.
remaining as a much thickened projection, often overlapping the site of the lesion.

The pelvic floor, viewed from within, forms a series of inclined planes sloping towards the anus, the general function of which, beside furnishing a strong elastic support, is best described by the name given to the larger group of muscles by the earlier anatomists, levator ani. There is a large class of injuries to the pelvic floor, incident to child-birth, usually overlooked or under-estimated, because the external orifice shows no material damage. These concealed injuries are due frequently to a submucous tear of the transversi, a rending of the pubo-coccygens from its posterior perineal attachment, and may be continuous through the vagina, up the lateral sulci, leaving the columna rugarum free upon one or both sides. It is exceptional that the injury is symmetrical, usually extending higher upon one side than the other, and may even reach into the posterior fornix. These inside lacerations usually be-
gin from above, before the advancing head, and generally do not involve the rectal tube, since this is usually compressed laterally, and comes into tension by the strain upon its anterior and lateral attachments which are the site of actual injury. On the contrary, lacerations of the sphincter are usually produced by the overtension on the median line anteriorly, causing a rupture in the raphé, which extends backward into the rectum.

There is a series of severe injuries where the vagina shows no evidence of lesion, and, although these are generally ascribed to overstrain or distention at labor, followed by relaxation and weakening of support, a deep post-vaginal injury to the muscular groups can usually be demonstrated. The finger no longer feels the firm ridge of the transversi muscles closing the vulva posteriorly. The pubo-coccygeus is felt as a large, open loop, passing obliquely backward into the pelvis, changing, in a marked degree, the plane of the pelvic floor. A careful study of the differences between these and the normal conditions renders this injury readily recognizable. A perineum may seem to be deep, because of the loose, relaxed condition of the parts, but the transversi uninjured are tense, and therefore may appear shallow. When the upper portions of the levator loop are uninjured, they may, in a measure, retain the pelvic organs in position, but, by the increased strain and tension, produce much suffering. Often, on this account, operative measures may be required.

In deeper ruptures, accompanied by rectocele, the posterior vaginal wall, on the contrary, is much thinned, and the mucous rugae disappear. Carefully examined, cicatrices usually extend much beyond the ununited parts, showing that a limited repair took place after the injury. Often bridges of cicatricial tissue make an imperfect repair of what otherwise would be a complete rupture; the radiating folds of the anus are retained only posteriorly. The rectal mucous membrane everts anteriorly in a thick, soft fold, sometimes appearing as a small tumor. When the injury is severe, the transverse muscles and perineum are separated at their union in the median line, and, contracting towards their origin, draw apart the injured surfaces, and the levator loop no longer presses the rectum forward upon the vagina, but, loosened from its central support, is changed in its
plane of action, and causes eversion of the posterior portion of the vagina.

A careful review of the surgical proceedings adapted to repair the injuries of the pelvic floor leads us beyond the limits of this occasion, but forms a chapter of exceptional interest. The time involved, the thought expended, the ingenuity and fertility of resource, to meet and group the different factors, as they appear to the varying consideration of special students, generally writers of much eminence in the surgical domain, all teach the importance and difficulty of the problem.

Celsius clearly recognized the injuries incident to parturition, advised rest in bed and tying of legs, but gave no suggestion of surgical repair.

Ambrose Paré pointed out the applicability of sutures, and his pupil Guillaumeau restored the parts, applied the interrupted suture, followed by cure. At the close of the last century, Saucerotte and Noël each succeeded in a single case, using the twisted suture. Dieffenbach, surgeon to the Charity Hospital in Berlin, in 1829, gave much attention to the injuries incident to labor, and his method of repair finds recognition in the textbooks of to-day.¹

"After a most deliberate and careful investigation, Dieffenbach concluded that suture alone would not supply any certain mode of remedying perineal laceration; and, among others, he laid down the following rules of practice: "1st. That prior to the operation the bowels should be well cleared by purgatives and enemata. 2d. That despite the swollen state of the torn parts, the presence of discharges, and the debility of the patient after delivery, the operation should be performed as immediately as possible after the accident, since those evils would be more than counterbalanced by those consequent on delay, as suppuration, sloughing, and loss of substance, and the yet later results, displacement of the uterus and associated organs. 3d. That no rupture, however slight, should be left to nature, for the healing would be superficial, and the vulva enlarged, proportionately to the extent of laceration, by the retraction of the labia towards the anus, the support of the pelvic viscera being also thereby diminished. 4th. That three to five sutures are necessary, according to the severity of the accident; the insertion of the sutures commencing at the anus, and, where the sphincter is torn, the first being applied at its angle. 5th. That where the perineum is lax, either the twisted or interrupted suture may be used, and when

the vagina is implicated, its fissure should be first brought together; also that where the perineum is tense and rigid, an elliptical incision should be made on either side the median line, and equidistant from it. 6th. That in those cases where there has been considerable loss of substance, the transplantation of an adjoining piece of integument may be resorted to, i.e., a plastic operation may be attempted. 7th. That in cases of old standing, the edges of the fissure require to be pared before being brought into apposition by sutures. 8th. That after the operation the bowels should be bound by the administration of opium, in doses of one-third of a grain twice a day; and that the urine should be regularly withdrawn by the catheter."

Lateral incision to relieve tension and confining the bowels by opium are the most noteworthy of his deductions.

Chelius, on the contrary, advocated keeping the bowels loose during the processes of repair. This seems to have been the common practice, until Baker Brown revived in this respect the teaching of Dieffenbach. The next most important contribution that has come to my notice is that of Langenbeck, described in a memoir, published in 1852 by M. Verhaeghe, of Ostend.

"Operation immediately after the accident is advocated; but the description given of the proceeding applies to old cases, since in recent lacerations it is only necessary to bring into apposition the divided tissues to restore the perineum." The operation may be divided into several stages, viz.: "1st. Vivisection of the free border or spur (éperon) of the recto-vaginal septum. 2d. The undoubling (dédoublement) of the septum and the formation of a flap destined to form, in the new perineum, the anterior side of the triangular space formed by two canals, vagina and rectum, with the perineum as the base. 3d. The vivisection of the two lips of the laceration. 4th. The insertion of the sutures. 5th. The two semilunar incisions advised by Dieffenbach.

"In order to pare the free edge of the septum, two fingers of the left hand are introduced into the rectum so as to stretch the parts transversely; then by means of scissors, a very thin lamina is removed from the entire thickness of the spur. This done, the two fingers in the rectum keeping up tension of the septum, a nearly semicircular incision is made on the anterior surface of the latter, and two or three lines from its inferior border. The upper lip of this incision is next to be seized by forceps, and separated by careful dissection from the deep layer for the space in length of six lines, and in the entire breadth of the septum. Thus two laminae are formed, one au-

terior or vaginal, the other posterior or rectal; the latter destined to continue in situ to close the rectum, the former to be drawn forward and fixed by its angles at the anterior part of the new perineum on each side. It will thus form an inclined plane, directed from behind forwards, as a sort of valve, which will act with reference to the new perineum as the epiglottis does to the glottis, that is to say, it will prevent the fluids of the vagina coming in contact with the newly united parts.

"The vivisection of the two sides of the laceration is the next object. To do this a quadrilateral space, rather elongated antero-posteriorly, is to be circumscribed by the scalpel, from the vulva towards the anus, avoiding the mucous membrane of the vagina above, and the skin below. In front the incision must not pass beyond, nor yet stop short of the point where the posterior commissure of the vulva naturally exists; behind, it should connect itself with the corresponding side of the pared edges of the spur; no portion not pared should exist between them. In general this quadrilateral space should be an inch and a half long, by three-quarters of an inch wide.

"This space having been accurately pared, and bleeding having ceased, next comes the introduction of the sutures. The suture intended to close the rectum is the first introduced, by a curved needle carrying a double thread. The needle should pierce the skin to the left of the anterior margin of the anus, and from four to five lines from the edge of the wound, so that it may come out on the denuded border of the spur of the septum, at the distance of about two lines to the left of the central line; it is then to be plunged into the same border, at an equal distance from the median line, and to be brought out at a point corresponding to that at which it was first inserted on the opposite side. By drawing this thread, the opposite pared edges are found to approach in the median line and thus to close the rectum. This ligature thus drawn, being intrusted to an assistant, the other sutures are to be introduced. The posterior suture is the first inserted; and about four lines should be left between any two. The needles should penetrate the flesh four to six lines from the margin of the wound, and emerge at a corresponding point on the opposite side, being kept clear from wounding the mucous membrane of the vagina.

"The next step is to fix the lamina derived from the septum. For this object small curved needles with a single thread suffice. This flap being fixed, its purpose becomes evident. It acts as a vaulted roof to the essential parts of the operation, obliging all the original secretions to flow towards the vulva without infiltrating in the interstices of the united fissure. In other words, it reconstitutes the anterior wall of the triangular space seen in the normal perineum. The sutures of the perineum are now
drawn tight. Lastly, the incisions of Dieffenbach may be made, as they serve materially to obviate dragging on the united parts by movements."

I have made transcript of this method in detail, since there are two features in the dissection and apposition usually attributed to more recent surgeons. In previous publications upon this subject, I have given credit to Dr. Jenks, of Detroit, as the originator of the method of flap dissection which I used in my earlier operations; the purpose I supposed having been that of Langenbeck's operation, viz., to protect the wound from the vaginal secretions. It will be seen by quotations later from Dr. Jenks' own article that he does not claim this as a part of his method, since he removes the flap entire after dissection. The other feature to be emphasized is the lateral splitting of the edges of the parts to be coapted, "undoubling." This method is attributed by Drs. Hart and Barbour to Prof. A. R. Simpson, by Zweifel to Lawson Tait, and which I published in 1883 as a device of my own, unaware of its use previously.

Baker Brown published his method in 1854, advocating the dissection of Dieffenbach, the use of deep quilled sutures and the bilateral division of the sphincter ani. This latter measure he thinks of the first importance in severe cases. The diet is kept very light, the knees close together, the urine drawn by catheter, opium is used freely, the deep suture removed usually about the fourth day. In the further development of the operation, Simon's modification of Dieffenbach's comes into consideration. He carried the denudation up the vaginal vault, posterior colporrhaphy, over the region of the perineal cicatrix, in the shape of a triangle. This was first closed and then the operation continued as by Dieffenbach. In complete rupture, he applied sutures in three directions, crossing in the perineal space. The perineal sutures were removed the third day, the vaginal and rectal later, often remaining ten or twelve. All sutures used were of silk.

Little by little, in modification of the above method, the dissections were extended more and more up, and laterally into the posterior folds of the vagina, notably by Hildebrant and Hegar. Kaltenbach and Hegar adopted, in complete ruptures, the closure by stitches, taken in three directions from the perineal

2 "Cyclopedia of Obstetrics and Gynecology," vol. xii.
centre as the point of departure, the vaginal sutures being the deep ones, the other superficial. Kaltenbach carried the denudation even into the vaginal cul-de-sac.

One of the most important contributions to the surgery of the early part of this generation is conceded as American and due, in large measure, to her favorite son, sometimes called the founder of gynecology, Marion Sims. Mettauer, of Virginia, first used and commended metallic sutures, lead, in 1830. Iron and silver wire followed and came into general use after the demonstration of the cure of vesico-vaginal fistula. In the Woman's Hospital in New York, Sims, Emmet, and Thomas, with able assistants, many of whom have since become famous, worked out the problem of their adaptation to the plastic repair of the vaginal tract. The great value of the wire suture was found in its non-irritating qualities. This, in wounds usually septic, was a great advance. They could remain for a much longer period, but in an aseptic wound they offer no advantage over silk or other material and are often troublesome to remove.

To Dr. Emmet is due the introduction of the method which is the one most generally practised in America. The two points most important that he presents are the denudation and the introduction of the first stitch, wire, through the sphincter ani. He states "that if we examine carefully an old, complete laceration, upon each side, there will be found a little depression or pit, which he attributes to the contraction of a portion of the sphincter ani." This marks its point of laceration, and should be very carefully refreshed. In contraction, the fibres are so separated that, in the way too often sutured, the inner constricting bands are not inclosed, and thus retract with, at best, a weak union. The stitch should be deep enough to include all the fibres. This is an important point, and should be always kept in mind. In perineoplasty for rectocele, as well as restoration of the perineum proper, Dr. Emmet modifies the dissection of the mucous membrane so as to include the deep lateral sulci. These are united in an irregular V-shape. In 1883, Dr. Emmet published his new operation for so-called laceration of the perineum. Since I have elsewhere criticised 1 this operation, I extract from the articles of

1 The Physician and Surgeon, May, 1887.
Drs. Jenks and Coe. Dr. Jenks writes: "In this paper, he holds that the loss of support following the laceration produced by child-birth is not due to the injury of the perineal body. In fact, he denies the existence of any such body, and claims that the injury is due rather to the detachment of perineal muscles and the perineal fascia. The description of this operation by the author is by no means lucid, but it substantially consists in a semilunar form of denudation, wholly within the vagina, of such extent that when the edges are brought together by means of sutures, the 'slack' in the posterior wall is entirely taken up or made to disappear, and yet the ostium vaginae is in no way denuded or directly interfered with. The advantages claimed are great diminution in the discomfort following immediately after the operation, and the perfect juxtaposition of the anterior and posterior vaginal walls, as in the non-parous women." Dr. Coe states: 3

"Although Dr. Emmet was not the first to affirm the insignificance of the perineal body as a support, he has deduced the practical lesson that laceration of the perineum alone impairs but little the integrity of the uterine support, whereas overstretching, or tearing of the fascia or muscles (levator ani) of the floor at their attachment to the vagina, as the result of parturition, at once disturbs the delicate adjustment of the pelvic organs. This theory, so correct logically, has, unfortunately, not yet received confirmation through careful dissections. Assuming that the injury in such cases involves the deeper tissues, and that it is not repaired by closing the perineum alone, it remains to inquire if the new operation proposed by Dr. Emmet does fulfil the indications. Granting that the tissues of the pelvic floor are lacerated, does the operator reunite the torn ends by passing his sutures blindly through the posterior vaginal wall, or is the operation simply a modified posterior colporrhaphy, the ultimate result of which is simply to narrow the vagina by the removal of redundant tissue?"

Dr. Dudley also seems to appreciate that Dr. Emmet may fail in the closure of the deeper layers of the sundered structures, and has added several deep perineal sutures after the method of Simon.

Dr. Wylie has modified Dr. Emmet's operation. 3

"Commencing from below, a strip of mucous membrane, as wide as can be conveniently cut, is snipped off, following the line

of junction of the skin and mucous membrane from the level of the inferior caruncle on one side to the same level on the other. We then denude all the posterior surface of the vagina up to this level, till we reach the beginning of the sulci running on either side of the rectocele. The part of the operation requiring the greatest judgment has now come. Our object is to unite the vaginal walls above the sulcius on one side with the corresponding portion of the vaginal wall on the other side, so obliterating the sulci, and forcing back the rectocele. If we carry denudation too high, we shall find it difficult to bring the two sides together without undue tension. If we are too timid, our support will be insufficient, and the operation will be but a partial success. The proper level having been determined, we continue the denudation upward till we reach the points in the vagina which we marked out as the limits of tension from the apex of the rectocele. This will usually be about one and a half inches from the orifice. In denuding this portion of the vagina, we still work from side to side, carrying the strip of mucous membrane down into the sulcius, and up to the level we have marked on the other side. In doing this, we should not cut very deeply, and preserve as much as possible of the muscular substance of the wall of the vagina over the rectocele; but afterward we should go over the work in the sulci, removing all tissue till we come to the fibrous external sheaths of the vagina. In this way, we hope to preserve a firm muscular coat over the rectocele. When we are through, the denuded surface will be nearly square, or, if the rectocele be very large, a parallelogram, the greatest length being transverse to the axis of the vagina. All bleeding should be controlled perfectly by pressure and torsion; but, if necessary, catgut ligatures may be used, and the parts washed thoroughly with some efficient antiseptic.

This method of posterior colporrhaphy is important chiefly in that Dr. Wylie cuts away, by a second paring of the parts, laterally the vaginal muscle. He also emphasizes the stretching of the sphincter ani, in order to relieve tension and discomfort from rectal distention. He uses the interrupted suture, tightening from below upward, being careful that the needle is buried when it passes under the angle of the sulcius.

In Germany, the first notice I find of the use of animal sutures in perineorrhaphy is by Bröse, in recent lacerations, in 1883. He commended catgut treated with a corrosive-subli- mate solution, and preserved in absolute alcohol, rejecting that prepared after Lister's method. Schroeder used in perineor-

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1 Centralblatt für Gynäkologie, July 15th, 1885.
2 Ibid., 1883.
rhaphy, with much satisfaction, catgut soaked eight days in a 1-1,000 sublimate solution, and then preserved in juniper oil. Doléris published his experience, and advised knotting the thread from time to time. He states, "the gut is absorbed in seven or eight days." Last year, when here at the Congress, he informed me his experience continued satisfactory.

Dr. Martin, of Berlin, reported twelve cases in which he used the continued catgut suture with good results; since this time he has continued its use. When the wound surface is very large, he wraps in layers, as did Schroeder, and thus buries one line of the sutures. He commends this practice as very satisfactory. He refers to Werth, as having published, in 1879, the advocacy of the use of catgut as a deep suture.

Dr. Martin's method of denudation is a modification of Freund's operation. Both leave the columna rugarum and resect in a lateral direction, as thought sufficient to restore the normal vaginal lumen.

Bischoff's method is interesting in that he revives the flap operation of Langenbeck, but reattaches it laterally. He, like Langenbeck, limits the dissection to the removal of the mucous membrane.

Lawson Tait in complete ruptures has recently also modified the Langenbeck operation. He removes no tissue and operates with scissors. His sutures are inserted in the axis of the wound and surround and bring together large surfaces. The suture should not appear in the rectum, and only the knot should show in the vagina. Two stitches are always sufficient, are of silk, and generally are removed the tenth or twelfth day.

Heppner devised a suture for securing equal pressure. It is a figure of 8 in shape and possesses certain advantages.

Hadra of Texas, has recently contributed a series of interesting articles upon the lesions and restoration of the pelvic floor. After a careful review of the operative measures commended by various authors, he criticises most of the methods as in certain respects defective. First, that operations for posterior colporrhaphy are made upon the denuded vaginal muscle and are not resections of the vagina, as in anterior colporrhaphy, now generally recommended. His query is pertinent, since, if for

1 Archives de Tocologie, Fév., 1885.
3 The Medical Register, 1887.
the anterior portion of the vaginal tract resection is best, why
not for the posterior?

Again, he places much emphasis upon the vaginal vault or
fornix and he has devised some ingenious resections as modi-
fied posterior colporrhaphies.

Although this review is necessarily brief and imperfect,
many excellent suggestions and changes in operative procedure
by distinguished men having been omitted, I have endeavored
to sketch the outlines of thought which lead up to the present
accepted modes of surgical repair. We have seen, with one or
two exceptions, that the tissue removed is limited to the mucous
membrane, whether the operation is upon the perineum proper,
or a posterior colporraphy. In operations for incomplete rup-
tures, more or less complicated with rectocele and prolapse, the
method, with exception of Wylie's, consists of an intra-folding
of the muscular wall of the vagina, in varying pattern.

The groupings of the muscles sundered at the perineal raphé
and more or less widely separated are, in attempt, included by
depth sutures, taken in every manner of direction, while every
material used in surgery for sutures finds its advocates.

In the earlier part of this paper, I endeavored to show the anat-
omical relation of the parts, when normal; the more exact con-
ditions of the structures as usually found after injury, and their
perverted physiological action, producing various degrees of suf-
fering: It was demonstrated that the changes in the vaginal
structures were generally not due to a primary injury of this
muscle, or its mucous covering, but to secondary forces brought
to bear upon it, called into action by the modified relations of
the muscles of the pelvic floor; the transversi perinei no longer
supporting and holding in place the other groups, but, on the
contrary, retracting towards their origin and thus evertting the
vulvar opening; the levatores ani, not able to act as a suspensory
band, pulling forward and closing the vaginal canal, but on
the contrary, freed from their central moorings, drawing the
anus upward and backward. These, of course, are accom-
panied by changes in vascularity and innervation, by weaken-
ing of the various layers of the pelvic fascia, by absorption of
the fat and elastic tissue, by defective action of the bulbo-cav-
ernosus, erector clitoridis, and sphincter vaginae muscles, by
consequent imperfect circulation in the erectile tissues, per-
verted glandular secretion. The ultimate effects are a bladder
weakened in support, a distorted rectum, a displaced uterus, each factor adding to the other, until the sum total of discomfort renders life often a grievous burden.

In June, 1883, at the meeting of the American Medical Association, I read a paper upon the restoration of the perineum by a new method, which was published in the journal of the Association the following October. In this, I advocated the dissection of the portion to be restored by a flap, the lower border of which only is separated. This dissection I made after the manner of Dr. Jenks, of Detroit, with two modifications, which seemed to me essential; first, making the dissection as deep as possible without its being retro-vaginal, and then retaining it entire instead of dissecting it away, as recommended by Dr. Jenks. He says:

"I use neither tenaculum nor tissue forceps, but, with the parts tense, snip a hole in the mucous membrane in the median line, close to the integument, and then inserting the scissors with a cutting motion into the small hole made, I continue to dissect the mucous membrane away from adjacent tissues without removing the scissors, first going up the septum as far as desired, and then laterally, first on one side and then on the other, without removing the scissors or once bringing their points out from beneath the mucous membrane. Then, with blunt-pointed scissors I cut away the dissected flaps."

This anterior flap I utilized by coaping its inverted \( \Delta \)-shaped freshened surface, and united the lower sides of the triangle, the perineum proper, by lateral supporting pins\(^2\) (Fig. 11).

"This is effected by means of a double pin, the halves of which are nearly alike. The pin is made of German silver wire, gauge No. 20 or 22, since this material does not irritate the tissues and possesses stiffness and elasticity, qualities which are essential. The end is bent in a small loop, and turned one-fourth of an inch therefrom at a right angle, and the shaft is two to two and one-half inches in length, sharpened like the point of the needle of a subcutaneous syringe. The one half is introduced from the vagina within outward, quite deep into the connective tissue laterally, the direction being determined by the finger placed in the rectum, to which the pin should be parallel. The other half of the pin, similarly constructed, is introduced from without inward upon the opposite side in the same manner, the point of which is caught in the loop of the first part and adjusted without. Thus a kind of "safety-pin" is constructed

\(^1\) **American Journal of Obstetrics**, 1879.

and, when fitted to retain properly the inclosed portions, the loops are clamped down by compression forceps and the ends cut square. This is found to hold sufficiently firm, but, at first

fearing it might not be secure, I also clamped a perforated shot upon the wire. The shot renders the end of the pin less liable to cause irritation. If properly adjusted, the elasticity

of the wire compensates for the collateral edema, and does not impair the circulation in the inclosed parts, while complete approximation is obtained, and no force is exercised in the
direction of the long axis of the triangle. Two to four pins are required, as the case may demand. The subsequent treatment consists, in most instances, of a daily washing out of the rectum by means of a large, double rubber tube with a considerable quantity, usually from three to four quarts, of water as hot as comfortable to bear. Upon the eighth or tenth day, as thought wise, each pin is gently pushed upwards and the vaginal end exposed. Each side is then cut off near its juncture and withdrawn.

The object of this support is to do away with the distortion and puckering of tissues inherent to the deep wire suture, and prevent all strain upon the inclosed freshened surfaces. In this paper I also emphasize the fact that, in cases of complete rupture, I divide the refreshed sides of the rent laterally and close with a continuous animal suture, so as to make the double V or diamond shape of the parts to be coapted, as in incomplete ruptures.

At the Eighth International Medical Congress, held in 1884, at Copenhagen, I contributed a paper still further setting forth the views I then held, and with slight modifications advocated the above-described method, using tendon from the tail of the kangaroo instead of catgut. In May, 1887,¹ I published a further contribution to the study of perineal injuries and the restoration of the pelvic floor. In this article I advocate a modification in the dissection, in that I carefully find and separate the posterior third of the vagina, not its mucous membrane, from the more or less deformed perineal structures.

"³ My dissection is to separate the vaginal muscle from its pathological relations, and is continued so as to reach the lateral sulci, and, in its closure, not only is intended to, but does overcome the patulous condition of the introitus vaginae in cases of great relaxation." . . . "A curved needle, threaded with tendon or catgut is introduced into the bottom of the wound, and then it is carried carefully, in deep suture, from opposite sides of the lateral sulci, behind the vagina. The posterior vaginal space, being thus approximated, the same suture is continued deeply into the retracted ends of the transversus perinei, and tied without extending externally. This, of course, is intended to remain as a buried suture, and subsequent success is dependent upon its aseptic condition. More recently I have threaded

¹ The Physician and Surgeon, Vol. 9, No. 5.
² Ibid., Nos. 5 and 8.
each end of the tendon and introduced the needles from opposite sides, thus making a double stitch.” . . . “In a number of hospital cases well selected, the patient under careful supervision, I have omitted the pins, trusting to the deep buried suturing. At present I do not feel safe in commending this practice generally, but if trustworthy, it will be a manifest gain to both patient and surgeon.”

In June, 1887, at the meeting of the American Medical Association, Dr. E. W. Cushing, of Boston, in a paper contributed to the Obstetrical Section, reported my method of operation and gave the result of our experiences in associated work. In this paper he claimed nothing original, refers approvingly to my methods, but states that the use of catgut as a continuous suture in repair of the perineum is due to Schroeder. In a very recent publication, he writes: “At the meeting of the American Medical Association, in 1887, I reported my method of operating for ruptured perineum by joining Schroeder’s system of buried catgut sutures in layers to Jenks’ method of splitting the flap, followed by cure in every case.”

As we have seen above, in my paper read before the Obstetrical Section of the American Medical Association, in 1883, and again at the Copenhagen Congress, in 1884, I distinctly mention the use of the continuous animal suture in perineorrhaphy. In the Annals of Surgery, December, 1881, in an editorial upon “Animal Ligatures,” I discuss the advantages arising from their use as sutures and the changes which ensue, when antiseptically buried in the tissues. I there advocate the use of the tendon from the kangaroo as a buried suture, taken as a double and also as an over-and-over continuous stitch. I first used, in 1871, the buried animal suture in hernia, and soon after published the results of a series of physiological, experimental studies upon animals, undertaken to demonstrate the advantages of the buried suture.

A résumé of these studies may be found in the New England Medical Monthly Journal, June, 1883, in a paper upon “The Animal Ligature.” “For the same reason, in the use of the deep suture, we have sewed the catgut or tendon with the over-and-over stitch, or the ends from opposite directions through the same opening, after the manner of the shoemaker. The continuous suture has a double advantage. It reduces the

1 Boston Medical and Surgical Journal, Nov., 1871, p. 315.
number of knots to one or two, which is a considerable gain where a number of stitches are required, and the collateral swelling is equalized by distributing the pressure of the suture throughout its entire length. This insures a uniformity of circulation in the inclosed portion, and thereby lessens the devitalization of the tissues, causing a more sure and rapid process of repair to ensue. This method of suturing is especially to be recommended in the closure of large hernial openings, the ligation or the stump of a uterine tumor or a large ovarian pedicle."

From that time until the present, I have applied the buried animal suture for the coaptation of nearly all wounded surfaces.

According to Martin, catgut was first used in Germany as a deep suture by Werth, in 1879. Doleris adopted its use in perineorrhaphy in 1885, and soon after Schroeder recommends it for perineoplasty.

Results, rather than the origin of methods, are the facts sought for by the profession. German surgeons may never have heard of my labors, but as the records stand, I am clearly entitled to priority in the use of the buried continuous animal suture. The manner of applying the suture, called the shoemaker’s stitch, quite unlike any other, I demonstrated at the International Congress, in London, in 1881, and so far as I knew, its originality has never been questioned.

A brief résumé of my operation will close a paper already too lengthy. In complete ruptures, with more or less prolapse, the transversus perinei muscle can no longer be felt as a band in front of the rectum, and the pubo-coekeygens has lost its tonicity. The restoration of these, with the various attachments of the sundered groups, is the object sought. The patient, etherized, is placed on a table, in a good light. The limbs are flexed, and both thighs are carried closely on to the abdominal wall. This position is retained, by the aid of assistants or the Clovis crutch, which has been simplified by Dr. Kelley, of Philadelphia. Under the hips is placed a rubber, inflated, irrigating pan, with a large efferent tube, to conduct the fluids into a receptacle under the table. These inflated rubber receptacles are a great convenience, preventing all soiling of patient and surgeon, and were first made for me, nearly ten years ago, by the Davidson Rubber Co., of Boston. Somewhat recently, with a slight modification, they have been introduced to the profession as the "Kelley pad." The irrigation with a 1-2,000
mercuric bichloride solution is under the charge of an assistant, and the entire operation is conducted with due antiseptic care. The sphincter having been stretched and the bowel thoroughly emptied, two fingers in the rectum, the posterior third of the vagina is separated, with knife or scissors, from its vulvar attachments. The recto-vaginal space is easily found, without much loss of blood, and the dissection of the vagina from the rectum is carried into the lateral sulci as far as may be judged sufficient. The separated flap is lifted and held by an assistant;

Fig. 13.—Needle used in the application of the deep double continuous suture.

then I introduce a large curved needle, the eye near the point, armed with tendon, deeply from side to side; the opposite end is threaded, and the needle withdrawn, carrying the tendon with it. The suturing is continued in this way, until the required number of stitches are taken. In rectocele, with prolapse and large, deep sulci, the buried double stitch is taken on either side to join the separated fibres of the levator loop with the retracted transverse perineal muscles, and then are united laterally. Usually, four or five stitches are required to unite the posterior vaginal fascia, and then the separated ends of the perineal muscles are included by deep sutures. Any other

Fig. 14.—Diagram to show the lateral closure of a deep vaginal rent by the double continuous animal suture.
needle and stitch may be used, but I prefer the one above mentioned.

In prolapse, where there is great redundancy of the posterior vaginal wall, a portion may be required to be removed, otherwise the edges of the inverted sides are united vertically. I

![Fig. 15.—Diagram illustrating the method of the deep double continuous suturing. The posterior wall of the vagina carried forward and held by an assistant. The needle is inserted deeply from side to side through the retracted ends of the transversi.](image)

- use the buried suture, as described above, in recent cases, and seal with iodoform collodion.

In complete ruptures, after a careful refreshing of the sun-dere d edges with a sharp knife, I split laterally, between the
Marcy: The Perineum.

rectum and vagina, quite sufficiently to permit a free separation of the flaps. Over the sphincter, it is usually necessary to carry the dissection in a posterior direction, in order to reach the retracted ends of the sphincter muscle. The lateral dissection must also be sufficiently deep to reach the separated ends of the transversus perinei muscles. To effect this, the posterior third of the torn vagina is usually detached.

If the ends of the retracted perineal muscles seem tense when united, I use the lateral supports, applying one or two pins as heretofore described. These serve simply to retain at rest the coapted parts, and lie parallel to the anus outside the sutures. If the operation is aseptic, the after-treatment is simply rest in bed, and the cure complete. The operation should be conducted with the strictest care, since it is difficult to operate upon this portion of the body without contamination of the parts involved. The sutures should be applied under

Fig. 16.—The double continuous suture applied by utilizing the large Hagedorn needle drilled with eye near the point. The needle rethreaded—ready to be withdrawn to complete the stitch.
irrigation, and the parts about the vulva covered with towels wet in a sublimate solution. Of all surgical procedures, few can be more dangerous than the deep implantation of infection carried by a septic buried suture.

My method differs from others in the following particulars:

I. The dissection of the posterior third of the vagina, not its mucous membrane, from its vulvar attachment, carried as deemed necessary into the recto-vaginal space, and the retention of this flap.

II. In rectocele with prolapse, the closure of the deep layers of post-vaginal fascia by a continuous buried animal suture, taken either in single or double stitch.

III. In lifting forward the vagina from its vulvar attachment, the retracted transverse perineal muscles with their connections can be reached and closed also by a deep buried suture, making in this way a true restoration of the pelvic floor.

IV. Coapting all superficial surfaces by a buried animal suture, applied in a blind, continuous stitch from side to side, covering the same when dry with iodoform collodion.

V. The application of lateral supports, pins external to the sutures as a splint, to hold the parts in complete apposition without strain.

VI. In complete ruptures, the lateral dissection, the joining of the rectal and vaginal edges with buried sutures, and then finishing the operation as in incomplete ruptures.

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PSYCHOSES AND GYNECOLOGICAL OPERATIONS.

BY

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The question concerning the relation which exists between psychoses and morbid conditions of the genital organs in women, is one of the most important which the gynecologist has to consider. How delicately the nervous system of woman reacts to any abnormal influence exerted upon the sexual organs is well appreciated by every physician, and especially by the
gynecologist who, in making a diagnosis and in choosing a method of treatment, is ever regardful to the state of the patient's mind.

It is true that both sexes exhibit a certain degree of mental sympathy in any disease, but the intensity of the mental symptoms which is often seen, for instance, associated with a retroflexed uterus or disorders of menstruation, seems to indicate a particularly intimate relation between woman's nervous system and her genitals. Even in apparently normal pregnancy, one often sees a mental perturbation due to reflex causes, and by no means a small fraction of the cases of insanity in women can be traced back to the puerperal state. At the menopause one meets with the so-called melancholia climacterica, the effect of some mysterious influence arising from the discontinuance of the menstrual function.

Aside from the various phenomena embraced under the term "hysteria," the mental symptoms usually met with assume the form of hypochondria, depression, or melancholia. The character and intensity of the mental perversion vary in different cases, and seem to bear no definite relation to the degree or nature of the local trouble. Thus in two patients exhibiting similar mental symptoms, the features of the genital complication in one case may differ entirely from those in the other.

When we see such a variety of local pathological conditions associated with psychical manifestations, we are inclined to think that any abnormal influence exerted upon the genital functions has a tendency to react upon the mind. But we should not forget that the local trouble, for instance a long existing malposition of the uterus, may produce a general debility, to which the mental disturbance is secondary. Predisposition, through temperament, social state, or hereditary influences, must be given due prominence in the consideration of this question. Where predisposition to psychosis exists, local lesions are doubtless a very powerful causa provocatoria; but whether or not such lesions can be the direct cause of some of the more severe and permanent affections of the mind is a problem which is not yet solved. In regard to this question, the statistics quoted by Peretti1 are very interesting, and show at least how very frequently sexual disease is present in insane women.

Peretti cites the results of the investigations of Hergt, Rippping, Claus, and Danillo, who compiled their statistics from clinical and post-mortem observations upon asylum inmates. Hergt found in two-thirds of the cases which came to autopsy, some form of sexual disease, including all catarrhs and inflammations. Rippping, on the other hand, who considered only the graver pathological conditions (tumors, malformations, and displacements of the uterus), gives only 33%. Claus, who examined 554 patients, found 84, or about 15%, suffering from various affections of the genitals. Danillo reports 69% of 200 patients examined in St. Anne, Paris.

These statistics certainly point to some etiological connection between insanity in women and the co-existence of genital disease.

Now comes up the question as to what part gynecological treatment plays in the causation of psychoses. From Peretti's point of view, namely that of the psychologist, gynecological treatment is looked upon as a fruitful cause of insanity. He reports cases from his own institution, the origin of which he attributes to injudicious treatment at the hands of the specialist. He says that scarcely a woman enters the asylum without having some time been under the care of a gynecologist, or at least examined for suspected local disease. The gynecologist, he claims, is often too enthusiastic, and in cases where mental symptoms are prominent, often takes it for granted that some abnormal local condition is the cause, when others are not particularly clear, and proceeds at once to the local treatment, in the belief that thereby the psychosis will disappear. This indiscriminate action on the part of the specialist, in Peretti's opinion, tends to excite serious mental symptoms where none existed, and in cases in which there is a predisposition, may produce the most severe and permanent psychosis. That he is right to a certain extent cannot be denied, but the success which has been attained in relieving mental symptoms by gynecological treatment, when indications for such were present, is the best warrant for taking exceptions to some of his assertions.

How often, and with what good results, local treatment is carried out solely for the moral effect! Still it will be admitted that where a patient manifests a peculiar nervous tendency, the treatment should be carefully chosen and judiciously employed.
In an answering article to Peretti's, Schultze criticises the views of the former, and defends the gynecologist. Although a firm believer in the frequent dependence of psychoses upon genital disease, he emphasizes the importance of caution in the treatment of such cases.

Of late years, many gynecologists have gone a step farther, and have endeavored to relieve mental symptoms by operating upon apparently normal genital organs. I refer to the operation of castration, which has unquestionably been followed by good results in many cases. On the other hand, since operative measures have become so popular in the treatment of diseases of women, experience has established the possibility that the same means employed to improve local conditions, and thereby the mental also, can effect a degree of mental disturbance even greater than usually depends upon pathological changes in the genitals.

The appearance of psychoses after operations upon the female genitals has only lately been observed by operators. The causative relation of the operation is by no means clear, and the analysis of cases only renders the association as cause and result more and more difficult to comprehend. Naturally we look at first for some evidence of predisposition, either in the family history or in the history of the patient. In some cases we certainly do find a predisposition, but in others the psychosis is attributable only to the operation. We cannot overlook the possibility of the co-existence of organic cerebral disease, or the occurrence of embolism or hemorrhage; and, again, in cases where the patient has suffered great losses of blood, or where a long, painful sickness previous to the operation has weakened the nervous system as well as the whole constitution, we must attach some etiological importance to this general condition. But when the operation stands alone in the light of a cause, we ask the question, "What is the nature of its influence?" In this connection the fact is interesting, that the rupture of tumors into the abdominal cavity has been followed by similar psychical manifestations.

Prof. Werth, of Kiel, who read a paper upon this subject before the Gynecological Congress at Halle last May, reported 6 cases of psychosis following operation. In 32 total extirpa-

tions of the uterus 2 cases occurred; in 160 ovariotomies, 2 cases; in 36 castrations, 2 cases. In 5, the mental disorder assumed the form of melancholia, and in 1 mania. In 2 cases the psychosis made its appearance five and eight days respectively after the operation; in 2 cases after two and three weeks; and in the 2 remaining cases the disturbance developed after the discharge. Of these 6 cases, 3 recovered, one after 15 days, one after 4 months, and one after 8 months. In 2 of the remaining 3 cases, there was no improvement, and 1 ended in suicide three and one-half months after the operation.

In the discussion which followed this paper, Sänger, of Leipzig, considered the psychosis in these cases latent and the operation the exciting cause. The latter was of the opinion that in most cases careful inquiry into the family history or that of the patient would probably show some evidence of predisposition; further, that the presence of psychical symptoms should not alter the treatment indicated by the local condition. Martin thought that gynecology played no particular part in the causation of psychoses. He claimed that it was seen after other surgical operations in men as well as women.

As apparently not as much importance was attached to this subject as was to many interesting papers, the discussion was by no means as full as the question merits. However, from the expressions of the speakers, and the absence of remarks suggesting other views, we conclude that the prevailing opinion was in favor of the psychosis being in all cases latent, the operation acting only as the exciting cause.

The following cases, observed by Dr. Prochownik, were prepared with a view to taking part in the discussion of Prof. Werth's paper, but the limited time allowed did not afford the opportunity. These cases have been studied with care, and the endeavor has been made to present all details which could have a bearing upon the results. Since returning from the Congress, the family histories have been again thoroughly investigated, and the slightest evidence of predisposition is stated.

Case I.—Miss W., 45 years. Patient was always well until forty-third year. Came under the observation of Dr. P. in July, 1883, when a diagnosis of multiple fibromata was made. The principal symptoms were due to the steady growth of the tumor. Patient was treated, with unsatisfactory results, until
February, 1885. During the latter part of 1884, the menstrual periods became irregular, and the climax seemed to be approaching. February 19th, 1885, supra-vaginal amputation of uterus, Schröder's method. Recovery interrupted in the third week by a small exudation in the left side. Discharged well, March 19th. In July of the same year, appearance of mental disturbance in the form of intense melancholia. Patient was treated at home for three months, and then several months in the asylum at Hildesheim. Her condition improved decidedly under treatment, and at present (May, 1888) she only shows periods of excitement or restlessness, with aversion to men, at intervals of four weeks. These attacks last about five days. At other times she is quiet and industrious, but has developed an intense hatred for physicians. At the first visit, and throughout the entire treatment previous to the operation, the patient did not manifest any hysterical tendency or depression. The family history shows that a younger sister had occasional hysterical attacks, entirely free from epileptic symptoms or any evidence of mental disturbance. Otherwise all the branches of the family for two generations had enjoyed perfect mental health.

Case II.—Mrs. P., 54 years. Was first seen July 7th, 1886. Patient was stout and strong, married twenty years, and had one child, nineteen years ago, with very difficult labor. Menopause three years ago. Condition: prolapse of uterus and vagina, large cystocele, hypertrophy of cervix, and incontinence of urine. There was, besides, an old perineal tear, and a myoma of the uterus in a state of involution. Patient was treated with pessaries until June, 1887, without success. June 16th, operation for cystocele and restoration of the perineum was performed, together with high amputation of the cervix. While amputating the posterior lip of the cervix, the peritoneum was accidentally opened. Notwithstanding the peritoneal wound was immediately closed with great care, from the fifth to the eighth day the patient had a moderate rise in temperature, and complained of pain in the sacral region. Discharged July 9th. Patient continued in good health until the end of September, when symptoms of derangement appeared, gradually increasing in severity. The symptoms were principally those of délire de persécution. At times there would be periods of sullenness, extending over two or three days, during which the patient would sit with bowed head, refusing to speak. These periods were of irregular occurrence. Family refused to have her removed to an asylum. Her condition improved gradually under the long use of the bromides, and at present she has recovered so far as to be able to do her work in her husband's restaurant, but is occasionally incapacitated by attacks of oppression which are gradually diminishing in number and intensity. Perfect mental health on both sides of the family for two generations. Mother and sister had perfectly normal menopause.1

1 This patient has lately died of peritoneal carcinoma.
Case III.—Mrs. P., 28 years. First seen February 21st, 1884. From this date until 1887 was treated, at different times, for catarhal colitis and two abortions. Curetting of uterus after second abortion. The patient occasionally manifested mild hysterical symptoms, crying at slight provocations, and feared that she was suffering from cancer. These symptoms were partly referable to homesickness, the patient being a French lady, and unacquainted with the German language and customs. Later an ovarian cyst, the size of a large orange, developed on the right side. This was incarcerated between uterus and rectum. Severe attacks of pain before and during menstruation. Up to the date of ovariotomy, September 19th, '87, mental state normal. During convalescence after operation, there was a rise in temperature in the second week, due to a slight inflammation around the pedicle of the cyst. Recovery was rapid, and the patient discharged in good condition October 6th. Mental excitement began in December, 1887, increasing in about a month to mania. Two attempts to kill husband and child. Several weeks' separation and long use of the bromide of potash effected great improvement. After a journey to her home in Switzerland, no trace of the former disturbance remained, and there has been no return of the symptoms. At present the patient is in her own home, doing her work with pleasure, is cheerful and quiet, and has increased fifteen pounds in weight. Not the slightest trace of insanity to be found in the family history.

Case IV.—Mrs. M., 39 years. Married eighteen years. One child seventeen years of age. Eight abortions (?). When the patient first came under treatment, March 1879, she thought that she was about to have an abortion, from the large amounts of blood which came away from her. The cause of the hemorrhage proved to be an intramural fibroma. Patient was treated from this time until 1887, with varying success. Laparotomy for castration was performed March, 1887. Besides the ovaries, two fibromata, each the size of a large apple, and both tubes were removed. The fibromata were situated on the anterior and posterior aspect of the fundus, respectively, and were partly interstitial. Enucleation. The left tube had degenerated to hemat and hydro-salpinx. A third large fibroma, situated posteriorly, and extending far down on the neck of the uterus, was left undisturbed. Recovery without reaction. After the operation, the involution of the remaining tumor progressed rapidly. The patient was a remarkably strong woman, and throughout the entire treatment, although at times losing enormous quantities of blood, and was confined to her bed for several days each month, she exhibited no signs of depression or derangement. In April, 1888, patient manifested first psychical symptoms, which appeared suddenly after the death of a friend. She became anxious and uneasy, not contented to sit quietly, but moving about with no evidence of a definite purpose. She is always rational, and never exhibits violence. Her mind seems to have lost its power of
forming ideas, and at this time she is unable to complete a sentence, either in speaking or in writing. Inability to remember the most recent events. There is no trace of insanity in the entire family.

[Note.—This patient has since died. Autopsy showed a tumor of the brain, the nature of which is not yet stated. Hemorrhage the immediate cause of death.]

These four cases are given as instances free from hereditary predisposition. Case IV. was under observation in the clinic at the time this subject was being investigated, and was included in view of the possibility of its being a pure psychosis. The case was a little doubtful, owing to the character of the symptoms and the length of time between the laparotomy and the outbreak of the disturbance. In all the other cases, the psychosis developed within four months after the operation. This case also differed markedly from our others and those of Prof. Werth's, in respect to the general course. In the cases referred to, the mental alienation appeared in the form of melancholia, while in this instance, although the symptoms at first were purely psychical, the manifestations soon became of a more serious nature, which at once led us to suspect organic cerebral disease. Shortly after our return from the congress, the appearance of certain physical signs left us in comparatively little doubt, and the patient was removed to her home, where she died. From the result of the autopsy it is evident that no importance whatever can be attached to the operation, but the case is instructive in that it suggests the possibility of our being able to say under such circumstances, that the mental derangement is dependent upon other causes. At all events our conclusions are, that mental disorders due to operation appear within four months at the latest, and that the symptoms are always purely psychical, being in the majority of cases those of melancholia.

We now come to the consideration of cases I., II. and III., in which we believe the operation to be the cause of the psychoses. In one case there was a removal of the uterus; in the second, anterior and posterior colporrhaphy, with amputation of the cervix; and in the third, ovariotomy. It is natural to suppose that the influence of operations involving the ovaries would be most effective, especially when those organs are in a state of functional activity. In case a cessation of the menses be the result of the operation, through removal of the ovaries or
otherwise, one might regard a subsequent mental disorder as a condition identical with the melancholia climacterica. Referring to case I., we see at once that it could come under this head, but in view of the impending menopause, with the aggravation of the painful symptoms originating from the tumor, we ask why the mental derangement did not make its appearance before the operation. That no psychosis would have developed had the case been allowed to progress without interference we are unable to say, but we cannot but hold the operation in the light of a cause. This possible explanation applies much less in case II., where the seat of the operation was remote from the ovaries, and moreover, the patient had passed the change of life, three years before. In case III., the function of the diseased ovary was destroyed long before the operation, and the other, in a healthy state, was left intact to carry on the processes of ovulation. Thus in this instance also, the operation did not induce the menopause.

Assuming, as we do, that the psychoses in these cases were a consequence of the operation, the question again presents itself, "through what influence are these results produced?" Had the operation been unsuccessful, or if the good results had not been obvious to the patient, we might give some weight to the moral effect; but here the operations and the results were satisfactory, both to the operator and patients. The bare possibility of metastasis from direct infection is perhaps to be thought of, but the want of physical signs, and the time elapsing before the mental disturbance, render this highly improbable.

As far as answering the above question goes, we can only offer what seems to be the most plausible theory, namely, "that the mental disorder is produced by reflex causes arising from the healing processes subsequent to injury to the peritoneum." In each of the first three cases was mentioned the occurrence of exudations with a rise in temperature after the operation. These exudations were referable to inflammation around ligatures, or to small after-hemorrhages into the peritoneal cavity. In case II., no examination was made at the time of the rise in temperature, for fear of injuring the wounds; but later, as the patient was discharged, the remains of a small exudation could be felt behind the cervix. In none of the cases did the patients complain of pelvic pains after their discharge.

According to our hypothesis, the protracted irritation to the
peculiarly sensitive peritoneum and its neighborhood so rich in nerves, finally accumulated, and having, as we may say, reached a certain degree of intensity, ultimately exerted its influence upon the central nervous system. It is to this concentration of peripheral irritation that we ascribe the outbreak of the mental derangement. Of course, the susceptibility of the mind to these reflex influences depends considerably, as we have said, upon individual predisposing elements, excluding those of heredity. The eventual removal of the source of irritation, by the absorption of the inflammatory products, serves perhaps to explain, to a certain extent, the transitory nature of the psychosis.

The following cases, in which the rupture of tumors into the abdominal cavity was followed by psychoses, seem to point in favor of this theory, and are very interesting in this connection. Two of these cases were under the personal observation of Dr. Prochownick throughout.

**Case I.**—Mrs. A——, 40. First seen in 1881. Married thirteen years. Infected with syphilis during first night of matrimony. Husband ruptured corpus cavernosum upon same night, and has never been able since to perform the sexual act. During 1879 and 1880, patient developed a large ovarian cyst. In 1881, while on her way to the clinic to be operated, the patient stumbled and fell, striking the abdomen against a low granite post. The cyst burst into the peritoneal cavity. An illness of only one week followed, with moderate fever. Two months after, the patient became intensely melancholic. Recovered perfectly in three months, after separation from home. Was treated one year later for syphilitic psoriasis, in the clinic of Dr. Unna. At present the patient is well, physically and mentally. No hereditary predisposition.

**Case II.**—Mrs. N. X., 35. Merchant's wife. In March, 1882, rupture of extra-uterine pregnancy (?) under observation of physicians in charge. Patient was severely ill for seven weeks. Later, appearance of melancholia with several attempts at suicide. First seen by Dr. P. in March, 1883. Large firm tumor in the left side. Treatment carried on partly at home and partly in an asylum. With the gradual shrinking of the tumor, the melancholia disappeared in the course of two and one-half years. At present the patient is perfectly well, and has gained fifteen pounds in weight. Menstruation regular and painless. Remains of the tumor exist, but unknown to the patient. Family mentally healthy for several generations.

**Case III.**—Mrs. C., 27. Person of doubtful life. In 1885, was treated for blennorrheal endometritis. Suspected pyo-salpinx sinistra. Patient was seen again December 13th, 1886, at which
time she had not menstruated for seven weeks. Menstruation usually regular. Examination: suspected pregnancy, and in addition to old tumor of left side, a small one in the right. No treatment. Two weeks later, Dr. P. was suddenly called, and found patient with severe hemorrhage and symptoms of peritoneal perforation. Probably criminal abortion. Recovery finally took place after a severe illness of two months. By the end of March, 1887, patient became intensely melancholic. Much improved after three months in an asylum, but left the institution against the wishes of a physician, and drowned herself two months later. It was ascertained that the father of this patient, a very ingenious man, was a confirmed drunkard, and died in an insane asylum.

The analogy between these two classes of cases is certainly very striking. Here also the peritoneum was injured, and the subsequent events present a marked similarity to those in the operated cases. In both there was an intrusion of foreign material into the peritoneum, and resolution and reabsorption were brought about by the same processes with their usual accompaniments. In Case III. of the last group, in view of the decided hereditary predisposition and nature of life, we do not wonder that the accident resulted in the outbreak of insanity, with a fatal termination. The first two cases are without a trace of hereditary predisposition, and the psychoses, both in time of appearance and character, resemble closely those following operation. Corresponding to the severity of the inflammation and the length of time required for the absorption of the products, we see the mental symptoms intense or mild, and disappearing after a longer or shorter period. Thus in Case I. the mental disturbance was of a comparatively mild character, and recovery took place in three months. Here the fluid contents of a cyst were poured into the peritoneal cavity, causing only a moderate fever and an illness of short duration. On the other hand, in Case II., the rupture of the tumor was followed by a long illness with high fever, and only a gradual removal of the source of irritation through protracted absorption. The psychosis in this case was severe and the recovery slow.

Of course this theory has its weak points, and we admit its unsubstantial basis, for, considering the frequency of operations involving the peritoneum, it seems strange that such mental disturbances are so rare. But perhaps they do occur oftener than we suppose, and not being considered in relation to the operation, do not become published. If we were able to follow
the subsequent histories of all peritoneal operations, after which occurred mild inflammations (after-bleeding, expulsion of silk sutures, or suppuration of elastic ligatures), the result would probably show that transitory mental reactions are not such rare consequences. After minor operations we commonly meet with temporary nervous phenomena, such as ischias, disorders of the urinary functions, or stomachic troubles. We also see these reflex nervous attacks associated with para- or perimetritic inflammation, and every gynecologist knows how much the relief of the former depends upon local improvement. The mental depression so frequently seen in these patients is the result of the reflexes. Why then, could not this peripheral irritation act directly upon the mind itself and produce a psychosis?

The study of these cases has led us to the following conclusions:

1. Gynecological operations can produce psychosis in patients free from hereditary predisposition.
2. Where there exists no predisposition, the mental derangement is transitory and the prognosis is good. In predisposed patients, the prognosis is unfavorable.
3. Mental disturbance appearing later than four months after the operation is probably independent of the latter.
4. The development of psychoses is probably limited to those cases in which the convalescence from the operation did not run a normal course.
5. The existence of a predisposition to psychosis in a patient ought not to deter the gynecologist from carrying out the treatment indicated by the physical condition.
6. In cases of really insane patients, operations should only be performed when the physical condition endangers life, or renders it insupportable. The same rule is generally to be followed in cases of psychical patients with a marked hereditary predisposition; in special cases, certain operations may be performed, if indicated by the objective symptoms.
7. All cases of mental disturbance following operation should be published with details.
8. In the history of cases for operation, special inquiry should be made into the family history in regard to psychical tendencies.
LAPARATOMY FOR ASCITES.

BY

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The accumulation of ascitic fluid within the abdominal cavity is of such frequent occurrence that the clinical study of this condition must at times claim the serious attention of the gynecologist. Ascites exists in deference to a number of causative influences. Its treatment must, therefore, be undertaken out of respect to conditions which may or may not come within the scope of the diagnostician's knowledge.

By far the most frequently recognized source of abdominal dropsy is obstruction of the portal circulation, induced by structural changes in the liver, leading to compression of the portal capillaries and consequent transudation of the watery elements of the blood through the obstructed vessel-walls. Cirrhosis, therefore, ranks as the most potent cause of ascites. Next to this influence, any other condition which induces a compression or destruction of the portal vessels will cause the same result, such, for example, as syphilitic and cancerous degeneration of the hepatic tissues. But apart from the conditions of the liver, which are by far the most frequent causes of ascitic accumulations, there are other influences at work which may cause either slow or rapid accumulations of fluid within the abdominal cavity, and which call for an early interpretation and prompt removal. Omitting from present consideration those conditions of the heart, spleen, and kidneys which may produce ascites, I shall consider only those conditions of the pelvic organs which have been recognized as having this influence. It may be stated as an axiom that abdominal dropsy is the result of an obstructed circulation, except only in those cases in which it results in connection with a serous inflammation. Thus effusions occur in peritonitis, whether acute or chronic, cancerous or tuberculous, and are not directly dependent upon mechanical causes. The mechanical influence at work in the production of

1 Presented to the American Gynecological Society, September, 1888.
the effusion should be sought for in all cases in which ascites cannot be referred to inflammatory or structural tissue changes.

The frequency with which ascites occurs in connection with ovarian cystomata, fibroid growths, and other pathological changes in the pelvic cavity invests the consideration of this subject with an important bearing upon the work of the gynecologist. The field of scientific work is constantly widening, and in the grasp of this condition of ascites, as of many others, the physician, the surgeon, and the gynecologist meet upon a common plane. To the elucidation of this subject each branch of the science may bring its offerings, and from the whole we may construct a practical rule of work which will guide each specialist in the comprehension of the subject presented to him. The physician may claim that the symptom under discussion is the result of such structural changes in well-known organs, as the liver, spleen, heart, or kidneys, as to place the treatment of this class of patients under a strictly therapeutical regime. The surgeon may, with equal emphasis, assert that the association of abdominal dropsy with intra-abdominal growths is an indication of the uselessness of drugs and a sufficient plea for the use of the knife. The gynecologist, whose special province is the pelvic region and female pelvic organs, has learned by practical experience the frequent association of abdominal dropsy with ovarian cysts, fibroids, and other structural changes in the generative apparatus, and must equally approach the treatment of this symptom from a surgical standpoint. It will, therefore, become a nice question to determine when to discontinue an almost profitless therapy and when to call into play the resources of surgery. Were the causative influences apparent in every case and a strict diagnosis possible, the assignment of these cases to the physician or to the surgeon would occur after an equitable method.

The successful management of so grave a symptom as ascites wholly depends upon an ability to ascertain and to remove the cause. The various influences at work must receive careful attention. Medication may be tried and be found wanting; palliation by paracentesis may temporarily succeed, and in this wise aid in restoring comfort, yet the great cause may continue its operation, the medical attendant having no satisfactory knowledge as to what this causative influence is. Eliminating from the history of the case the most frequent causative condi-
tions, such as cirrhosis, heart and kidney changes, the physician will now and then approach cases in which the origin of the effusion is involved in profound doubt. The symptom exists, but nothing within reach by manual manipulation or physical signs can reveal any form of abdominal tumor or structural change to account for the same. Under such circumstances are we justified in doing laparotomy to aid in a more thorough exploration of the abdominal and pelvic viscera with the object in view of determining the cause of the serous effusion? This is an important question, and, in answering it in the affirmative, I wish to make no claim for an indiscriminate practice. Exploratory laparotomy should never be undertaken until all other methods of diagnosis have been found inefficient, and even then we should have a reasonable assurance that the information sought for can only be found by this method. Approaching a laparotomy from this standpoint, we may be able to obtain results absolutely impossible by other methods. So long as ascites is a symptom, and not a disease, it will come within the possibility of an actual cure. In itself a most distressing complication of intra-pelvic or intra-abdominal growths, how often do we see it entirely removed by an oophorectomy for fibroids or an ovariotomy? The cause removed, the symptom disappears. But it is not with this aspect of this condition that I wish to deal at any length. Ovarian tumors demand removal for other reasons than abdominal dropsy. The same, however, cannot always be strictly said of fibroid growths. Abdominal effusions, the result of such growths in many cases, clearly demand an oophorectomy or hysterectomy to check or remove the mechanical cause of the exudation. An ascitic accumulation dependent upon a mechanical cause may only be within reach by mechanical interference, and with this idea in view the surgeon must aim to secure a result by operative methods. The important point is to determine in advance, if possible, what is the nature of this mechanical influence. If this fact cannot be ascertained without a laparotomy, the adoption of this procedure presents a claim upon our attention, and we are in duty bound to consider its advantages. The question will arise, Does the risk involved in an exploratory incision overbalance the probable advantages which may result from the information it is likely to impart? I shall not call in the aid of a long list of statistics to guide us to the answer of this question, but relying
upon the growing experience of the profession, axiomatically assert that exploratory laparotomy, carefully and aseptically performed, is, comparatively speaking, free from danger, and should be undertaken in all cases in which the surgeon has a reasonable hope of rendering a service commensurate with the risks it imposes. In abdominal accumulations the peritoneum is more tolerant of interference than in other conditions, and septic processes are less likely to result, hence we approach a laparotomy under conditions more favorable than those usually found. Peritonitis is an unfrequent result of abdominal paracentesis. When aroused in the wake of this procedure, an explanation will readily be found in the methods employed. The mere opening of the abdominal walls with the knife has become one of the safest procedures in abdominal surgery, and gives such results that a growing experience has demonstrated it to be admissible as an invaluable aid to diagnosis. If it be strictly within the province of scientific work to explore the abdominal cavity for the elucidation of such symptoms as pain, reflex-disturbances, and other intra-abdominal conditions, an equal claim should be established for the practice of a procedure which may enable the surgeon to remove the cause of such a symptom as ascites.

I have not deemed it necessary to prove the above statement by the use of figures, but as our knowledge is widened by experience a recital of the following case in this connection will prove of interest, by way of illustration, since it presents the most conclusive evidence of the value of an exploratory laparotomy in the treatment of the symptom under consideration.

Miss H., aged 19, had always enjoyed good health up to January 1st, 1888. She was plump, well-nourished, and regular in her menstruation. Her period came on as usual in January, but she noticed that the flow was more profuse and lasted longer than was her habit. This occasioned some weakness, not enough to suggest medical treatment. Her menses during the months of February and March were in advance of the usual time, the inter-menstrual period being shorter than normal; the flow continued a greater number of days and was more profuse. She now began to experience a sensation of heaviness and dragging down in her pelvis, entirely foreign to any previous sensation. During the months of April and May menstruation was continuous and her general health began to suffer. About May 1st, her abdomen was observed to be somewhat enlarged. On May 23d, the enlargement had increased to such an extent, and her
health was so depressed that the family physician, Dr. Arthur Williams, of Elk Ridge, Md., was called in. Upon examination Dr. Williams obtained the history previously given, whilst a physical examination revealed the abdomen to be markedly distended with fluid and disclosed a tenderness over each ovarian region. The patient’s appetite was good, spirits cheerful, and general condition indicated no serious organic trouble. Her heart, kidneys, and liver were examined, and nothing found in these organs to account for the ascites. The patient belonged to a tuberculous family on both sides of her house, and she had formerly been troubled with a cough, but her lungs presented no physical signs of serious structural disease.

On June the 1st, Dr. Williams found it necessary to perform paracentesis abdominalis, her abdomen having become so enormously distended with fluid that relief was demanded. The effusion had shown no disposition to disappear under the use of drugs. Two and a half gallons of ascitic fluid were removed at this time. An examination was again made by Dr. Williams with the view of ascertaining the cause of the ascites. The result was negative. Within a few days after the paracentesis, the effusion was again very apparent and continued to increase rapidly each day. At the request of Dr. Williams I was invited to see the case with him on June the 5th, just five days subsequent to the paracentesis. I found the abdomen considerably distended with fluid at this time. I gave the patient as thorough an examination as circumstances would admit of, and I was forced to agree with Dr. Williams that the origin of the effusion was involved in profound doubt, but we mutually agreed that it was most probably due to some local cause in the pelvic or abdominal cavity which could only be ascertained by an exploratory laparotomy. The uterus was depressed in the pelvis, but it was normal in size and shape. The ovaries could not be made out, and consequently no enlargement of these organs was detected. The abdominal walls were thick, and now distended with fluid, preventing a searching examination by internal and external manipulation. With the history of a tubercular diathesis, the possibility of a tubercular origin of the fluid was considered, but the facts in the case did not seem to sustain this view. That the effusion was not a result of an acute or chronic peritoneal inflammation the history fully showed. Having eliminated every source of doubt as to origin of the effusion from such causes as cirrhosis, heart and kidney diseases, we were forced to refer the cause to some condition which an examination by present methods employed had not made clear. The continued menorrhagia had induced me to look to ovarian or uterine disturbance as a probable seat of the trouble. With grave doubt as to the real cause, but with strong conviction as to the necessity of ascertaining the same with a view to its possible removal, the importance of an exploratory laparotomy was strongly urged upon the patient and her friends as the only rational and practical solution of the
trouble. The risks of the procedure and the possibility of negative results were carefully stated, but it was argued that, if the cause could be found and then removed, recovery might follow. On the contrary, to decline the procedure left only an aimless fight with diuretics, hydragogue cathartics, and the trocar, and doomed the patient to a life of invalidism and possibly to an early death. These facts were taken into consideration by the patient and her friends, and a decision was soon reached. I was courteously invited by Dr. Williams to do the operation on June the 10th. With the assistance of Dr. M. G. Smith and Dr. Thomas Buckler, of this city, and Dr. Williams, the operation was undertaken under strict aseptic precautions. An incision was made through the abdominal walls, permitting the escape of some three gallons of ascitic fluid [estimated]. The fingers were then introduced and a search made for the cause of the trouble. After a few minutes' search a tumor, about the size of a hen's egg, was found with a mass of intestine packed in the pelvis behind the uterus. Slightly enlarging the incision to admit of the introduction of the hand, a full sweep of the pelvis was obtained and both ovaries were found. The left was small and apparently atrophied; the right had undergone partial cystic degeneration, and was about the size of a billiard ball. In an attempt to bring it through the incision its thin walls gave away, and its contents escaped into the abdomen. The organ and tube of the right side were removed. The tumor first mentioned was solid, a fibro-myoma, without a pedicle, and was enucleated out of its attachments by the fingers. It seemed to spring from the folds of the left broad ligament, but its exact anatomical relations could not be determined nor its position clearly made out. This tumor is believed to have been the cause of the ascites; it had evidently pressed upon an important vessel and occasioned a transudation. A continued search failed to elicit any other condition which could explain the ascitic trouble. I had no hesitation in stating that I believed the cause had been found and removed, and that if recovery followed the laparotomy, the ascites would not recur. Subsequent events have verified this statement. The abdomen was next carefully closed. The wound healed by primary union throughout. The highest temperature reached was 100° on the second day. It then subsided to 99.5°, and after the fourth day was only one-half degree above normal. The patient recovered without a bad symptom, and now at the end of four months is strong and well, without a return of the ascites. The case is of interest from the fact that such an apparently trivial cause should have given rise to such a large effusion in so short a time. From May 1st to June 1st, over two gallons of ascitic fluid had formed and had been removed, whilst from June 1st to June 10th, over three gallons had reaccumulated within the abdomen. The result clearly justifies the means employed; but in all such cases where the cause of ascites cannot be
ascertained except by a laparatomy, such an experience as the foregoing seems to warrant a recourse to its procedure.

Laparatomy for ascites is not a new procedure. As far back as 1862 Sir Spencer Wells made an exploratory incision in a case of ascites dependent upon tuberculosis of the peritoneum. The patient, aged 22 years, unmarried, was suffering from ascites which was believed to be due to a subacute form of tubercular peritonitis, but, as this diagnosis was uncertain, Mr. Wells made an exploratory incision, and found the whole peritoneum studded with myriads of tubercles. The patient made a prompt recovery, and was living and well in 1884.

In looking over the literature of this subject I find it in an unsatisfactory condition. Only here and there can a record be found where an operator has undertaken a laparatomy for ascites pure and simple. In America, during the year 1887, I find only two cases recorded in which laparatomy was undertaken for this condition. In one case, reported by Dr. X. O. Werder, of Pittsburg, Pa., the cause of the ascites was not revealed by the exploration. In Great Britain Mr. Hatherley reports a case of ascites believed to be of tubercular origin, in which a small exploratory incision was made to confirm this diagnosis. The result was stated to be satisfactory.

Laparatomy for ascites, dependent upon ovarian, fibroid, and other intra-abdominal growths is not an infrequent procedure, but it must be borne in mind that the chief indication for the procedure was the removal of the growth and not the discovery of the cause of the dropsical effusion. In such instances the cause has been recognized, and the ascites has been considered as a mere coincidence. It is proper, therefore, that a distinction should be drawn between a laparatomy undertaken for the removal of a morbid growth, in which ascites is a prominent, and it may be a most conspicuous symptom, and an exploratory incision made solely to determine the cause of an abdominal dropsy with a view to the removal of the same. There is a marked difference, and yet no wide distinction between these two procedures. In the first instance a local cause for the symptom has been ascertained, whilst in the second instance the cause is unknown, and the procedure has for its primary object the discovery of the causative influence and the secondary aim to remove the same.

The object of this paper is to assert the importance of the
distinction here made. If we are permitted to make a classification of the conditions for which laparotomy may be undertaken, then it appears eminently proper that such a symptom as ascites should come within the scope of the classifications now admitted as justifying this procedure. The time has passed when the physician should rest content to treat ascites with hydragogue cathartics, diuretics, and the trocar, and when he should widen the field of his diagnostic knowledge by invoking the aid of surgery. A mere routine treatment by such agencies should be discontinued when the diagnosis has not been satisfactorily established, and we have an assurance that valuable assistance can be rendered by surgery. It is one of the most encouraging results of modern scientific progress that men can break loose from traditional moorings and approach the treatment of diseases, as well as symptoms, by rational methods. The art of medicine is progressive. If at this end of the nineteenth century we appear too enthusiastic in urging the claims of the knife in preference to the continued use of drugs in such conditions as have been defined, it must be borne in mind that we are guided by practical experience, and not by theoretical considerations.

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THE WRONG OF CRANIOTOMY UPON THE LIVING FETUS.¹

BY

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In my first annual address, delivered before this society five years ago, I predicted that the discussion of the relative propriety of the operation of craniotomy upon the living fetus and the Cesarean section, then in progress, would result in a modification of the views held by a majority of obstetricians, and that the time would come when the Cesarean section and other conservative procedures, which offered the chance of saving two lives, would supplant the killing of the fetus that the

¹Sixth annual address of the President, delivered before the Washington Obstetrical and Gynecological Society, Oct., 1888.
chances of the mother's recovery might be improved. I did not then anticipate the rapid progress of the revolution which I felt assured had begun, nor that, at this early date, science would have so nearly accomplished that result. After five years' submission, without remonstrance, to adverse criticism, you will pardon me if I give expression to the pleasure it gives me to recur to this subject, not, as then, a postulant, canvassing the issue of justifiability, but now as a predicant, asserting the wrong of craniotomy upon the living fetus. This proposition advances a step beyond the inquiry discussed in my first address, and involves the question of moral responsibility as well as the issue of scientific investigation and result. It may be that my views are extreme, but if advances in the science and practice of obstetrics are limited to the domain of long established usage and generally accepted principles, progress must cease. If the early followers of McDowell had laid aside the scalpel at the bidding of their assailants, abdominal surgery would not now be crowned with the brilliant success of the great ovariotomists, whose achievements are known in every land where medical and surgical science is cultivated. Nay, more, if they had been discouraged by the unfavorable results in the beginning, ovariotomy would long since have been consigned to the catalogue of unjustifiable operations, and the unnecessary sacrifice of woman's life would have continued as a memorial of the inadequacy of scientific medicine.

To state the issue plainly, the averment must be made that no conscientious physician would deliberately and wilfully kill a fetus if he believed that the act was a violation of the commandment, "Thou shalt not kill." It has been well said by Barnes,¹ the highest authority on operative obstetrics, and the ablest and most conservative defender of craniotomy, "It is not simply a question for medicine to decide. Religion and the civil law claim a voice—a preponderating voice. In the whole range of the practice of medicine, there arises no situation of equal responsibility, of equal solemnity." Maintaining² the affirmative of the proposition that the profession can

¹ British Medical Journal, October 2d, 1886, p. 624.
² The improved operation has given results in Germany so satisfactory that possibly the day is at hand when craniotomy upon the living fetus will be very rarely performed, if done at all. Parvin, Med. News, Vol. lli., p. 652.
and must escape from such a solemn responsibility, I hold that we must strike directly at the root of the evil, which declares that "it is the mother's right to save her life, even at the sacrifice of her child;" and abolish a plan of treatment which the experience of past ages has handed down to us, and vindicated by the assertion of the right to take one life rather than leave two to die. We must, in the interest of a broader humanity and a far wider field of usefulness, accept the progress of science, and offer chances to two lives rather than take the one which cannot assure the safety of the other. In the remote past, when obstetric operations were, at best, performed with rude appliances and in a bungling and unscientific manner, by operators lacking in knowledge and experience, such interpretation of the moral law must have been cherished as a blessing to humanity, but "under the new regime the interest of the living child will constitute a more important factor," and the public will demand the highest skill attainable in obstetrics. Directly opposed to such progress is the assertion of right to take life at will, supported by the equally untenable assertions of easy accomplishment and small mortality of mothers. With the issue thus made up, I proceed.

The right or wrong of craniotomy upon the living fetus forces itself into the foreground of this discussion because this unsettled issue is the obstacle thwarting the advance in the methods of conservation of human life. Until the unjustifiability of the alleged right to kill a fetus at will to enhance the chances of life to the mother is fully demonstrated, and the

2 "To reduce the bulk of the child, or to extract its mutilated remains through a pelvis of two and one-half or less conjugate, is an operation of extreme difficulty, one occupying a very considerable period of time and needing for its successful accomplishment, as far as the mother is concerned, a very great experience, and an amount of manual dexterity hardly to be acquired outside of a large city; while, on the other hand, the Cesarean section is an easy operation, capable of successful performance by any surgeon of ordinary skill." Kinkead, British Med. Journ., October 2d, 1886, p. 626. "The argument, that such operations as that of Porro would fall largely, of necessity, into the hands of men inexperienced in abdominal surgery, was not of much value; for exactly the same thing was true of bad cases of craniotomy, and he felt certain, of the two classes, under similar circumstances, the resulting advantages would be largely on the side of amputation of the uterus." Tait, British Med. Journ., October 2d, 1886, p. 627.
wrong of it laid bare in the fulness of its enormity, the law of justification will be invoked to cover the plea of expediency.

I will not characterize craniotomy upon the living fetus as a crime in the ordinary acceptance of the word, that is, a deliberate, wilful, and malicious malefaction. Nor would I invoke the enactment of penal laws upon the subject. Nor do I assume censorship of professional conscience. Neither do I maintain that one who may differ with me is necessarily wrong. I concede to every qualified obstetrician the right of private judgment, and recognize the moral responsibility of every one for his own acts. Nevertheless, I would seek to cultivate and disseminate a higher and broader conception of moral duty than that which reposes in conscientious security upon the assumed right to kill an unborn child "in the interest of the life of another, responsible for its existence," when there is sufficient evidence to justify other procedures "equally in the interest of both mother and child."

Whilst I forbear to characterize the sacrificial operation as a crime, I will antagonize the charge of sentimentality so frequently and flippantly made against those who would offer chances to two lives rather than take the one which cannot assure the safety of the other, with the counter-charge that those who claim the right to take life as the mere choice of obstetric or surgical procedure assert a prerogative as arbitrary in its conception as it is cruel in its execution. An operation which, in a spirit of evasive defence, has been admitted by its advocates and defenders to be abominable, repulsive, horrible, detestable, and execrable, must partake more of the nature of a sacrilege than a sacrifice; and that sentimentality which, by its


2 Mr. Tait feels certain that the "decision of the profession will be before long, to give up the performance of those operations destructive to the child in favor of an operation which saves it, and subjects the mother to little more risk." British Med. Jour., October 2d, 1886, p. 624.

The operation of amputation of the pregnant uterus, I venture to predict, will revolutionize the obstetric art, and in two years we shall hear no more of craniotomy or eviscerations, for this new method will save more lives than these proceedings do, and it is far easier of performance. It is the easiest operation in abdominal surgery, and every country practitioner ought to be able and always prepared to do it. Lawson Tait, Med. Record, Nov. 10th, 1888, p. 557.
abolition, would relieve obstetric science from the necessity of such dreadful admissions, needs no other defence than the courage to assert itself.

The killing of the unborn fetus must be intentional and deliberate, and executed intelligently, or otherwise it is manifestly a crime. In the present state of medical and obstetrical science, ignorance, haste, convenience, and want of preparation cannot be offered as pleas in abatement of the wrong. Incompetency to do that which others can do, cannot justify a feticide. Intentional and deliberate killing must find its justification in some law, either civil, scientific, or moral. Self-preservation is the first law of nature. But neither the civil nor the moral law will accept the arbitrament of any one man's judgment on so momentous a question. Criminal law assumes to ascertain and measure the degree of guilt by defined methods of judicial procedure. Established usage may constitute an adequate plea in justification or abatement of many wrongs committed in the ordinary concerns of human life, but it offers no escape from the responsibilities of criminal acts, even though it may mitigate the punishment of penal offences. Custom and usage may excuse, and civil and criminal law may acquit the accused, but neither of these avenues affords escape from the moral responsibility of intentional and deliberate killing.

I do not introduce the references to the civil and criminal law to degrade the alleged wrong of craniotomy upon the living fetus to the level of an ignominious offence, but to exclude the argument of justification based upon the absence of common law or statutory prohibition, and to re-assert the principle of moral responsibility above and beyond any legislative definition.

It is established by the consensus of professional opinion that the operation has been frequently performed in cases where delivery could have been safely accomplished by the forceps, turning, or even by the unaided powers of nature. A dogma that accepts and justifies a procedure conducive to results so repulsive to Christian civilization and humanity, and so obstructive to the progress of science, should seek defence upon a higher plane of professional duty than the mere assertion, without proof, of the right to take the life of one innocent human being to increase the chances of the recovery of another.
The wrong of craniotomy on the living fetus is a more complex offence than a wrong act inflicted upon one’s self. If the moral dereliction could be limited to the responsibility of the operator, it might be submitted to the arbitrament of his own conscience; but this greater offence is committed against the purest type of an innocent and defenceless human being—an unborn child which has reached that stage of its development which fits it for an independent life—at the will and on the judgment of one whose office and duty it is to preserve that life.

Conception is the product of cohabitation. With cohabitation and insemination, the function and office of the male in the production of a new being terminates. Not so, however, with the female. The laws of procreation entail upon the woman the obligations and responsibilities of maternity, which are equally as high in the scale of natural attributes, and more imperative in all the requirements for their complete fulfilment. It must then follow that the child is entitled to life, even at increased risk to the mother. The doctrine of responsibility of the operator for his own act cannot condone the composite offence. He may but play the part of accomplice in the final act of the drama of wrong, but the bloody hand may be none the less guilty, for complicity and connivance are, at least, accessory wrongs. Women in travail are not infrequently terrorized at the mere suggestion of the necessity of manual or instrumental interference, but accept with alacrity any alternative which promises to terminate their agony. It quite as often happens that the grief of a disappointed and blighted maternity can only be solaced by the coming of another. If the improved Cesarean section is not necessarily fatal to either mother or child, and offers fair promise of life to both, and craniotomy falls far short of such a promise, while it loads the mother’s heart with sorrow and taints her life with guilt, surely the accomplice of such a deed of evil cannot ransom the wrong with the dogma of absolution by virtue of his doctorate in medicine.

The mother’s love of offspring is the most acute and intense passion of human life and animal instinct. No obstetrician need be reminded of the anxious inquiries concerning the safety of her child so often made during the agony of her travail, her joy at the first cry of independent life, her devotion to the infant

1 Thomas.
at the breast, and her willing sacrifice of strength, health, comfort and pleasure during the after-life of the fruit of her womb. Are such qualities mere exhibitions of emotion induced by the current, passing, and evanescent events of her life, or are they attributes of that divinity of soul that makes her the helpmeet of man and the emblem of all that is pure and good in life? The attributes of maternity find their beginning in the innate qualities of human life; manifest their obvious presence in the amusements, pleasures, and pastimes of infancy and childhood; grow with pubertic development; intensify with adolescence; and attain fruition with the birth and care of a living child. From its beginning to the end of intellectual life, maternity is a ceaseless passion, enshrined in truth, virtue, sincerity, forgiveness and self-abnegation, and hallowed "in devotion of the heart in all its depth and grandeur." The sublimity of such natural endowments carries with it the force and conviction of condemnation of wilful assent to and complicity in the destruction of a fetus at maturity, and asserts the prerogative of a child to live at increased risk to the mother. It cannot be that the complex processes of conception and utero-gestation, the organization, construction, and equipment of a new being for an independent life, and the agony and danger of parturition mean nothing more than the right of life by consent of mother and the will of the accoucheur.

There can be no higher obligation of professional duty than the promotion of the welfare and the saving of the lives of those committed to the care and judgment of a Christian physician. This duty cannot be wholly discharged short of the conscientious and intelligent application of such resources of art and science as may be known to promise the best result. When two beings are in equal danger, the killing of one not necessary to and not assuring the safety of the one responsible for the existence of the other and the danger of both, cannot fill the measure of such duty, when a less violent procedure offers a reasonable prospect of saving both lives. In rebuttal, the logic of fallacy alleges that the killing of the first child may preserve a life which may so multiply that the aggregate saving of infant and maternal life will surpass anything that is likely to be obtained by the Cesarean section. This sophism takes no account of the uncertainties of events, encounters the danger to both mother and child of premature labor induced at varying
periods of fetal viability, and suppresses the rule of successive breeding and killing at the pleasure of the woman and the will of the operator. It wholly ignores the fact that the Cesarean section may, with slightly less percentage of chance to the mother, save both lives, and restore to the woman incapacitated by pelvic deformity the privilege and power to give birth to an indefinite number of children, and that Porro's modification may save both lives and prevent subsequent pregnancies. But such illogical reasoning finds its complete refutation in the absence of any clinical data upon which their allegation could be based, and the numerous instances in which women have preferred Cesarean section rather than permit a repetition of craniotomy. There is no case known to me, where a woman upon whom the section has been successfully performed, has refused to submit to its repetition in a subsequent pregnancy.

The sentence of condemnation has long since been pronounced against criminal abortion. No one of you would produce an abortion to conceal an illegitimate pregnancy, nor for any reason, except such as would, in your conscientious judgment, make the death of the mother and, consequently, of the fetus; otherwise inevitable. Neither would you induce premature labor at any stage of fetal viability, except to save the mother, and to offer a reasonable—in many cases an increased—chance of life to the child. The death of a pregnant woman necessarily causes the death of an undelivered child. According to the latest review of the subject maternal mortality is 8.2 per cent, two tenths less than that of craniotomy. Whilst the maternal mortality is but a fraction in favor of induced premature labor, the saving of life in the aggregate has so magnified the importance and advantages of the procedure that it has become an accepted and established alternative of craniotomy, especially applicable in conditions of pelvic contractions in which the craniotomists insist the latter is the elective operation. The mortality of weak and immature children is very large, but the invention and application of the incubator of Tarnier has reduced it to 36.6 per cent. So that the ratio of lives saved is as 155.2 in 200 to 91.6 in 200 by craniotomy. It is then evident that the induction of

1 See the collection of cases of multiple Cesarean section by Lungren, Amer. Jour. Obst., Vol. xiv., p. 78.
3 Ibid.
premature labor has acquired priority in the chronological order of alternative procedures because of the aggregate saving of life; and its universal acceptance gives emphatic expression to the supreme and dominating passion of maternity, and to the widespread abhorrence for the dogma and practice of craniotomists. From this there is no escape, for there is no one capable of conscientious reflection who would offer the condonement of two-tenths of one per cent less of maternal mortality in favor of induced premature labor for the deliberate killing of one hundred unborn children. But fairness even to such a reprehensible practice demands the statement that the artificial provocation of labor at a selected time is only applicable to such cases in "which previous clinical knowledge, confirmed by exploration made before and during early gestation, has demonstrated the incapacity of the woman to bear a living child at term." Nevertheless, the obligation to possess such knowledge at the earliest practicable period of pregnancy is not less imperative than it is to conduct her safely through the perils of her travails.

"The brutal epoch of craniotomy" has certainly passed. "The legitimate aspiration and tendency of science (Barnes') is to eliminate craniotomy on the living and viable child, from obstetric practice;" and it may be that the realization of the dream of Tyler Smith will be the crowning achievement of the surgery of the nineteenth century.

Craniotomy is the oldest capital and most deadly obstetric operation. It was devised in the infancy of the art, to rescue women from the difficulties then regarded as otherwise insuperable. The history of obstetric progress since that remote period points with significance to the fact that every great discovery (Tyler Smith) in this branch of medicine is in direct "opposition to it, and has invariably tended to diminish the frequency of its performance where the child was living." Even the Cesarean and Sigaultean sections, which in the beginning were but a little less fatal to the mother than perforation is to the child, were attempted to escape the "massacre of the innocents." Then followed in chronological order the discovery of turning, the forceps, and the induction of premature labor; and, subsequently, the application of oxytocics and auscultation.

tion to obstetrics; the discovery of the physiology and mechanism of labor; numerous minor improvements; anaesthesia, antisepsis, lapar-o-lytrotyromy by Thomas, axis traction forceps, Porro's operation, and, finally, the improved Cesarean section by Saenger. A century after century has slowly rolled into the oblivion of the past, so has the opprobrium of obstetrics receded before the gradual evolution of mere handcraft into a science which has saved empires of lives; which now commands the admiration of the civilized world, and daily receives the blessings of millions of women. The present has surpassed any previous century in scientific discovery and advancement. In no department of science has this advance been more marked than in medicine; in no branch of medicine more than in obstetrics, and in none of the subdivisions of obstetrics more than in the saving of maternal and infantile life. Nevertheless, this barbarous relic of a pre-anatomic period, with its annual sacrifice of six thousand eight hundred and eighty lives in this country alone 1 remains a blot on the marvellous progress of the nineteenth century, and a reproach to our profession so progressive in all other directions. The frequency of the operation is so dependent upon variability of judgment that this estimate may be more or less, according to the number, will, and judgment of the operators—the sentence and its execution being alike asserted prerogatives. Collins performed the operation once in 141 cases of labor; Clark once in 248; and Ramsbotham once in 805; whereas Siebold only performed it once in 2,095; Baudelocque only once in 2,898 cases, and More Madden, in a long and large experience in hospital and private practice, has never once recognized its necessity or countenanced its performance. 2

The extraordinary frequency of the operation in the practice of competent obstetricians is explicable only upon the theory of an automatic belief in its justifiability, which invokes the more sweeping doctrine of necessary blamelessness 3 for erroneous conclusions, or the favorite and broader doctrine of Ingersoll "the immunity of all error in belief from moral responsibility."

1 This result is obtained by a calculation made upon the basis of sixty millions of people, with a ratio of thirty-six births (U. S. Census, 1880) to every one thousand of population, and the proportion of one craniotomy (Tyler Smith) in every three hundred and forty labors, the maternal mortality after craniotomy being 8.4 per cent.


3 Gladstone.
The discovery of McDowell encountered bitter prejudice and reproach, based upon the alleged unjustifiable sacrifice of the lives of women who were afflicted with a disease otherwise incurable. It is true that some lives are shortened by a period varying from a day or a week to a year or two, but even in the beginning such mortality was less than fifty per cent, and since 1809 ovariotomy has rescued from protracted suffering and premature death fully 75 per cent of the cases, and has added thousands of years to the lives of women. In each of such cases but one life was at stake. The Cesarean section, or some of its modifications, is performed in the interest of two lives, upon women who cannot give birth to their offspring per vias naturales. The opposition in this case is not less clamorous and unreasonable than in the other, notwithstanding the first fifty Saenger operations in Europe saved 80 per cent of mothers and 96 per cent of children, or 88 per cent of all the lives imperiled, while the best possible result in craniotomy—never, however, attained—would give but 59 per cent. This contrast exhibits the complex and contradictory methods which good and competent men, who have become set in their views, will employ to thwart and obstruct the advance of science. In the former instance, it was the possible shortening of the life of a woman fatally sick that aroused the fierce vituperation and denunciation; now it is the saving of 96 per cent of children at a slightly increased risk to the life of the mothers that fires the heart of the philanthropist who claims the natural right to destroy one half of the lives that the chances of saving the lives of the other half may be improved. The iron-clad conscience which sought to drive the early followers of McDowell into ignominious retirement lives only in the history of its futile efforts to obstruct progress, and ovariotomy has risen to the dignity of universal acceptation. The conscience which is today seeking to condone the wrong of craniotomy with the good that evil may bring, will read a like history in the near future when the world will know the possibilities of science, and the child will be saved without enhancing the danger of the mother.

As Tait has accomplished the brilliant success of one hundred and thirty-nine consecutive ovariotomies without a death, we

1 It is probable that occasional instances of cure resulted from the haphazard methods which have been long since abandoned.

need not hesitate to give full credit to his opinion that one hundred Porro operations should not yield more than five per cent maternal mortality.¹

To meet the charge of casuistry, the logic of words must be re-inforced by the demonstration of facts. It is admitted that alternative procedures give better results to the mother, with high probability of saving the child, than craniotomy when:

1. The conjugate diameter of the pelvis is two and one-half inches or less.
2. When the shortest diameter measures three and one-fourth inches.
3. In all cases of pelvic contraction when the opportunity of inducing premature labor has not gone by.
4. In cases of cancerous degeneration of the lower uterine segment and vagina.
5. In cases of immovable tumors, rupture of the uterus, convulsions, hemorrhage, and atresia of the cervix or vagina.
6. In cases where the pelvic cavity is obstructed by the presence of fibroid or other tumors.
7. In other emergencies than deformity, as in obstructed labor from ovarian tumors.

These limitations are based upon the following facts:

1. That craniotomy cannot in any case assure the life of the mother.
2. That it is necessarily fatal in every case to the child.
3. That in many cases one operation demands repetition on the same woman.
4. The maternal mortality varies from 7.1 to 12.5 per cent.²

¹ "If I had one hundred Porro's operations to do, before craniotomy or any other turbulent proceedings upon the child had been attempted, I would not have a mortality of more than four or five per cent." British Med. Jour., Oct. 2d, 1886, p. 624.
² Mundé says that, when performed by experts under the most favorable conditions, it should not exceed 7.1 per cent. Annual of Universal Med. Sci., Vol. i., p. 218.

Merkel (Arch. f. Gynäk., Vol. xx.i., p. 437) reports from the Leipsic Clinic 100 cases with 8 per cent mortality.

Thorn (Arch. f. Gynäk., Vol. xxiv., p. 437) reports 80 cases from the Halle Clinic with 12.5 per cent.

Wyder (Ann. de Gyn. et d'Obst., Jan., 1888) fixes it at 8.4 per cent.

Of the 180 cases of Merkel and Thorn, 88 had previously given birth to living children.
the Living Fetus.

5. The Cesarean section and other alternatives of craniotomy are not necessarily fatal to either mother or child.\footnote{Cesarean section always held out promise when performed under favorable circumstances. Lusk, Brit. Med. Jour., Oct. 2d, 1886, p. 626.}

To set forth more completely the question of limitation and inapplicability, I quote from Barnes' summary of conclusions the following four propositions.\footnote{\lfoot{For the Cesarean section, two very powerful arguments may be advanced: 1. That the child is not sacrificed, and that it has a reasonable prospect of being saved. 2. That the mother has a reasonable prospect of being saved.\par\lfoot{Barnes, Brit. Med. Jour., Oct. 2d, 1886, p. 624.}}\footnote{British Med. Jour., Oct. 2d, 1886, p. 635. The other conclusions have been embodied in the preceding statement of limitation and facts.}}

1. "In the most extreme degree of pelvic distortion, when delivery \textit{per vias naturales} can only be effected with doubtful success to the mother, Porro's operation is the legitimate alternative of craniotomy, \textit{it being understood that the opportunity of inducing abortion has gone by.}\footnote{Italics mine.}

2. "In less advanced degrees of pelvic contraction, but still incompatible with the delivery of a living child \textit{per vias naturales}, the opportunity of inducing abortion having gone by, but in which craniotomy would effect delivery with strong presumption of safety to the mother, the Cesarean section may be a proper alternative for craniotomy. This is the most debatable point."

3. "In the minor degrees of contraction, say from three inches to three and a half and three-quarter inches, the opportunity of inducing labor having gone by, the greater safety to the mother obtained by craniotomy, and the prospect of living children in future pregnancies by inducing labor, makes craniotomy the proper course to pursue."

4. "When obstruction is due to hydrocephalus or dropsy in the child, embryotomy or tapping is indicated."

The first of these propositions does not raise an issue with regard to pregnancies at full term. Tapping offers the best chance to such a life as that described in the last. The second is declared to be the most debatable, and might be left where its author puts it. For if the issue of safety to the mother by either of the operations is thus submitted to doubt, the ninety-six chances of saving the life of the child is sufficient to justify and determine the election of Cesarean section, which gives "strong presumption of safety to the mother." The third bases
the decisive choice of craniotomy upon the hypothesis, before referred to, of possible "living children in future pregnancies by inducing labor." This proposition was formulated when Porro's operation was considered in contrast with craniotomy, and loses whatever force it may have then had in the fact that the improved Cesarean section had yielded a percentage of living children one and a half times greater than that of induced premature labor, and, besides, offers a higher percentage of "prospect of living children in future pregnancies" than induced labor. Dr. Barnes concedes the choice of induced premature labor to craniotomy, when the child is living and viable. This concession is based upon the prospect of saving children that would necessarily be sacrificed by craniotomy. It logically follows, therefore, that when it can be shown, as it has been, that the improved section saves more children and offers better prospects in subsequent pregnancies than induced labor does, the reason for the only one of the three propositions which advocates the election of craniotomy disappears, and with it all justification based upon that reason. It is thus clearly shown that Barnes' admissions, in view of the more recent advances in obstetrical surgery, absolutely obliterate the field of its application, as defined by him.

The first proposition qualifies the choice of Porro's operation in cases of "most extreme degree of pelvic distortion," and the second qualifies the debatable issue of election between section and perforation, in cases of "less advanced degrees of pelvic contraction," with the significant words, "the opportunity of inducing abortion having gone by." By inducing abortion he means the arbitrary termination of the pregnancy before the period of fetal viability. So that practically the all-absorbing question of deliberate destruction of fetal life recurs with all its forbidden intent, and this in the face of the fact that craniotomy in the first class of cases (first proposition) is more destructive of maternal life than section was even before the discovery of Porro, or still more, the favorable improved method of Saenger. The acceptance and practice of the alternative of induced abortion would constitute a barrier to progress, and relegate obstetric surgery to the epoch which its author has characterized as brutal.

To bring the issue more closely to a final result, I invite
your attention to the analyses and comparative results\(^1\) of Cesarean section, induced premature labor, version, and perforation in cases of contracted pelvis, performed in the Dresden Clinic, during four years ending in December, 1887.

Total maternal mortality from

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Mortality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induced Premature Labor</td>
<td>2.2%</td>
</tr>
<tr>
<td>Perforation</td>
<td>2.8%</td>
</tr>
<tr>
<td>Version and Extraction</td>
<td>4.8%</td>
</tr>
<tr>
<td>Cesarean Section</td>
<td>8.6%</td>
</tr>
</tbody>
</table>

Mortality from Sepsis:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Mortality Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induced Premature Labor</td>
<td>2.2%</td>
</tr>
<tr>
<td>Perforation</td>
<td>0.0%</td>
</tr>
<tr>
<td>Version and Extraction</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cesarean Section</td>
<td>4.3%</td>
</tr>
</tbody>
</table>

Or to state the result in aggregate as follows:

Percentage of children discharged living:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induced Premature Labor</td>
<td>66.6%</td>
</tr>
<tr>
<td>Perforation</td>
<td>00.0%</td>
</tr>
<tr>
<td>Version and Extraction</td>
<td>59.0%</td>
</tr>
<tr>
<td>Cesarean Section</td>
<td>87.0%</td>
</tr>
</tbody>
</table>

Or stating the aggregate saving of life by each operation, two hundred lives being involved in every one hundred cases:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Induced Premature Labor</td>
<td>164</td>
</tr>
<tr>
<td>Perforation</td>
<td>97.2%</td>
</tr>
<tr>
<td>Version and Extraction</td>
<td>154.2</td>
</tr>
<tr>
<td>Cesarean Section</td>
<td>178.4</td>
</tr>
</tbody>
</table>

The foregoing figures present the alternatives of Cesarean section in their most favorable aspect. The ratio of maternal mortality in craniotomy is 2.8 per cent, and yet nearly twice as many lives are saved by section. Nor should we overlook the facts that one-half of the maternal mortality of Cesarean section was due to causes beyond the control of the operation, and that in every case a living child was delivered.

These statistics show that craniotomy saved 5.6 per cent more mothers than section, but the latter operation offsets this small increased loss of mothers by giving us all the children living at delivery, and eighty-seven per cent of them alive at the time of discharge from the clinic. The issue then resolves itself into the simple question of the actual or relative value between the lives of five or six women and eighty-seven chil-

dren. If we base our conclusion upon the universally accepted apothegm that "that only is right which produces the greatest good to the greatest number," the conclusion is self-evident—the eighty-seven must be saved—and this conclusion is reinforced by the fact that the five or six lives lost are those of women who cannot give birth to a living child per vias naturales. If there is any obligation of duty or maxim of the moral law which demands the sacrifice of eighty-seven lives to improve the prospects of saving five or six women in labor, the time had surely come for its abrogation. But the argument *ad hominem* replies with the specific citation of the daughter or wife of some high official, conspicuous in social life, possessing marked beauty and intelligence, with ample wealth which she devotes to charity and benevolence, and holding in her physique and constitution the highest probability of a long and useful life, and demands to know if the life of such a woman should be submitted to the 5.6 per cent chances of death, with the eighty-seven per cent chances of life to her child, rather than to the 2.8 per cent chances of death with deliberate killing of her child. The picture is pathetic and moving, but the answer is simple and plain. Both science and religion deal with exceptional cases as such. The broad principles of truth, humanity, progress, and development are not to be stayed or hindered by the special pleading of imaginary cases of isolated hardship, however much of pathos or tears they may suggest. All lives are of equal value in the eyes of the true scientist and the true Christian, and the divine art of healing can have no safer guide than this: That nothing can possibly justify the taking of a human life unless it be the absolute certainty that, by this

1 "How long must we be forced by lay opinion to destroy the lesser for the benefit of the greater life, when it can be conclusively shown that the Cesarean section, resorted to in time, may with almost absolute certainty result in the saving of two lives?" Amer. Jour. Obst., Vol. xxi., p. 672.


<table>
<thead>
<tr>
<th>Location</th>
<th>Cases</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berlin</td>
<td>104</td>
<td>5.8%</td>
</tr>
<tr>
<td>Halle</td>
<td>35</td>
<td>5.7%</td>
</tr>
<tr>
<td>Leipzig</td>
<td>76</td>
<td>5.3%</td>
</tr>
</tbody>
</table>

Premature labor: 366 cases; mortality, 3.9%.
means alone, another human life can be preserved—and this is
the answer of both religion and science.

It is true that the ratio of mortality is less, but the uncer-
tainty of life remains the same. Each woman operated upon
by either method takes all the risks of the operation. Those
dying after craniotomy might have been saved by section, and
vice versa. The saving of the child is the only compensation
for the uncertainty of life and possible error of elective pro-
cedure. The unflinching discharge of unavoidable duty is the
only guide of conduct. The behests of a long accepted dogma
should not thwart the progress of science which promises
divorce of the profession from lay opinion, which claims
the destruction “of the lesser for the benefit of the greater
life.”

The right of an individual to select the alternative of certain
death rather than submit to an operation which may shorten,
but, more probably, will effect a cure and prolong life, is not
absolute. In such case, but one, and that the life of the victim,
is involved. Such right cannot, however, be conceded to a
woman in labor who is responsible for the existence of her child
and the danger of both, since by it she imposes upon an inno-
cent operator the act of killing, that her prospect of life may be
slightly improved. The conviction of right in the first cannot
carry with it the concession of right in the latter instance.

If a pregnant woman possesses the natural and inalienable
right to terminate the life of her child at term, she cannot be
denied the right to terminate it at any period of gestation, and
eriminal abortion would then become an accomplishment of the
highest significance. The early destruction of embryonic life
would be the simplest and surest escape from the perils of utero-
gestation and parturition; would effectually withdraw from
further scientific pursuit the advances in obstetrics which seek
the elimination of craniotomy; more certainly extinguish the
instincts and attributes of maternity; nullify the laws of repro-
duction; and reduce woman to a level more degrading than
any to which the most barbaric of primitive people consigned
her.

The argument that craniotomy upon the living and viable
fetus is the indirect killing of an unjust aggressor is a trivial
sophism. The killing is the immediate, and even more direct
object than the end sought to be accomplished, for that is neces-
sarily attended with the chance of safety to the mother. It is a curious, but interesting historical fact that embryotomy found its beginning in the intuitive obstetric practice of primitive peoples who believed that all difficulties were referable to the evil disposition of the child, and that "a child so perverse as to refuse absolutely to appear deserved death, as did the mother who carried such a child." Obstetrics has advanced from the epoch of intuitive practice, through the religious and pre-anatomic epochs, and the first three hundred and fifty years of the scientific period, and yet there are very many eminent obstetricians practically holding fast to the doctrine of merited death or justifiable killing of the fetus for a like cause and a like method, which the primitive peoples could justify only upon the theory of the evil disposition, perverseness, and unjust aggression of the unconscious and passive child. Nevertheless, the savage inhumanity of such a doctrine evinces a broader sense of justice than the craniotomists of to-day, in that it recognized the culpability of the mother to be equal with that of the child.

It will be charged, notwithstanding the equally favorable results of craniotomy, that the maternal mortality of the alternative procedures in the Dresden Clinic are less than the ratios of mortality of the operations in general. The utmost fairness, therefore, requires that comparative ratios shall be obtained from larger numbers, which will comprehend the experience of numerous operators. To this end the following analyses are made:

In a private letter, dated August 20th, 1888, Dr. R. P. Harris informs me that 131 improved Cesarean operations had "been performed in 11 countries by 73 operators, with a saving of 95 women and 118 children."

In 15 German cities, 32 men had had 65 cases and saved 56, a percentage of 86⅔; only 9 deaths in all.

In 5 Austrian cities, 7 men operated 21 times, saving 15, or 71⅔ per cent.

In 9 American cities, 16 men operated 20 times, with 9 saved, or 45 per cent. The first 5 were all fatal.

Russia saved 4 out of 6.
Holland saved 4 out of 4.
France saved 2 out of 4.
Italy saved 2 out of 4.

England saved 0 out of 2.
Denmark saved 1 out of 1.
71 saved out of first 100.
33 saved out of first 50.
38 saved out of second 50.

Switzerland saved 1 out of 2. 34 men saved out of 45 cases, in India saved 1 out of 2. 1887, 36 women, or 80%.

This aggregate in its most unfavorable aspect, with its 73 operators in 11 countries, and including the educational and experimental cases in this country, shows a saving of 72.32 per cent of women and 90.84 per cent of children. In other words, it shows a saving of 165.36 lives out of a possible 200, being 65.5 more lives saved than is possible by craniotomy, even admitting that it is absolutely free from danger to women. As yet no one has claimed that any group of 73 craniotomists has saved 100 per cent of the lives of the women operated upon, even though they sacrificed 100 per cent of the lives of children. Further comment is unnecessary.

Later statistics:—Caruso (Archiv für Gynaekologie, Band 33, Heft 2) has collected the cases of the modern Cesarean section up to October 1st, 1888, "comprising 135 cases; 6 successful cases, in addition, are known to Caruso, but the details necessary for publication were lacking.

"German operators have performed 74 of these operations; Americans, 18; Austrians, 16; the results by Americans are inferior to those of the Germans and Austrians. The results are $\frac{74}{100}$ per cent of recoveries among mothers in all cases, and $\frac{91}{100}$ per cent recoveries among children; in three cases in which the operation was done a second time, both mothers and children recovered. It may, therefore, be said that a mother has three chances out of four, and her child nine out of ten, for life with this operation.

"A careful estimate of the results of craniotomy, under antiseptic precautions shows that $\frac{93}{100}$ per cent of the mothers recover. Selecting similar cases on which section was performed, the percentage of recoveries in these cases was $\frac{89}{100}$, and 100 per cent of children. Caruso concludes, therefore, that craniotomy on the living fetus is to be superseded by the conservative operation."—Amer. Jour. Med. Sci., Vol. XCVII., p. 99.

1545 I Street.
Observations on the Conservative Treatment of Diseases of the Female Pelvic Organs vs. Their Hasty Mutilation by the Knife.

To the Editor of the Journal of Obstetrics.

It is one of the facts in human history that newly discovered agencies, even though of supreme value when judiciously and skilfully employed, are, in the hands of their enthusiastic advocates, too often made the hobby for nearly every ill, and become a fruitful means of irreparable harm.

The removal of the ovaries, Fallopian tubes, and even the uterus, for formidable and otherwise incurable diseases, is unquestionably very right and proper; but the hasty removal of those important organs or any of them, unsexing the woman, without first giving her every possible chance for restoration by other means, is, in my opinion, wholly unjustifiable. Besides, in many cases, even when thus mutilated, they are no better off than before it was done, and yet they are unsexed for life, without any sort of compensation for such a misfortune.

I have been engaged pretty largely in the treatment of the diseases and abnormalities of the female pelvic organs for twenty years, and I am sure that I have conducted many cases safely to health, with all their faculties and functions intact, that, had they been in the hands of some of our enthusiasts for the knife, would, if living (?), have been simply emasculated stoics, deprived of the very elements that give them the spirit and charm of womanhood and make them attractive to man, and give them due affinity for man—though it be their husbands.

I have met with numerous cases of diseased, enlarged, and prolapsed ovaries, some of them very hyperesthetic, attended with the various menstrual difficulties, with pain, nervousness, constitutional impairment, anemia, etc.; but by proper treatment, such as holding the diseased ovary in place and at rest by suitable supports and by hot vaginal douches, medicated suppositories per vaginam, composed, e.g., of glycerin, iodide of potassa, belladonna, bals. copaiba, etc., etc., and the use of electricity, with suitable constitutional remedies to control nervous excitement, tone up digestion, enrich the blood, etc., I have seen them happily relieved of all their troubles and restored to excellent health. I will mention three instances:
CASE I.—A young lady, age 20, consulted me with this brief history: that sixteen or eighteen months previous she began to have some irritation of the bladder, with frequent desire to pass her urine, attended with some smarting; that she consulted two very prominent physicians—who were partners—who spoke of her trouble as only a slight matter, and that she would be well in three or four weeks, and gave her treatment. But her trouble continued, and they continued to treat her, stating that very soon she would be well; but, instead of that, she grew worse and worse until she would be confined to her bed for four to six weeks at a time, until, discouraged and worn out, she quit them and I was consulted. Upon examination, I found a tumor filling the entire pelvic cavity, gluing the uterus, ovaries, ligaments, and other tissues all in one solid mass, feeling hard as bone, so that I could not tell by the touch where the pelvic bone quit and the tumor began. The rectum was occluded almost entirely in two or three places, so that only fluid matter could pass, and that in a very small quantity at a time, and with great pain. The cervix was involved in a large disintegrating ulcer, which had destroyed a large portion of it, and was rapidly advancing towards the body of the womb, and her constitution was greatly undermined. The question naturally arose, What shall be done? But I did not debate that question long. First, I applied pure chloride of bromine¹ to the ulcerated neck, ordered hot flaxseed infusion douches per vaginam and in the rectum as could be borne; after I had first dilated the strictures to some extent, by inserting gum-elastic bougies, I also applied medicated suppositories to the cervix, and ordered the best constitutional treatment that I could devise, with the occasional use of electricity through the pelvic tumor. In a fortnight she began to improve, the tumor grew softer and smaller, all symptoms disappeared, and in six months she was mingling in society, and said that she felt perfectly well, evacuating her bowels naturally, menses regular, appetite good, enjoying life happily, with a sharp lookout for matrimonial overtures.

CASE II.—A married lady of 30 years, right ovary the size of a walnut, prolapsed and very sensitive to the touch; cervix uteri greatly elongated. She was extremely nervous, and greatly emaciated. Had suffered greatly for six or seven years; treated by several physicians, and visited various health resorts, etc., but all without relief. Menstruation was attended with great suffering and prostration. I lifted the prolapsed ovary to its place, and held it by a well-fitted pessary; ordered daily use of medicated suppositories and hot douches per vaginam; gave suitable constitutional treatment, with electricity, and in a few months she was fully restored, and so continues, now six years.

CASE III.—Wife of an eminent minister, had been in bad health for several years; for some eighteen months had suffered extreme torture, until she said that "she would have taken anything to have gotten out of her misery." She had been diagnosed by a

¹Sic—B. H. W.
prominent physician to have carcinoma of the uterus; a good case for hysterectomy; great distress with bladder, intense pain through pelvis and sacrum; *intense hyperesthesia* of nervous system; not able to sleep, could take but little food, nor have any rest day or night. Upon examination I found an extensive old laceration of the cervix which was gaping open, with florid, angry-looking granulations covering the surface; the womb retroverted and subinvoluted, pressing on the bladder and rectum; the ovaries both having taken on inflammatory action to considerable extent. I re-adjusted the womb, and held it in situ by a well-fitted pessary, applied medicated suppository, and ordered hot douches ter die, per vaginam; gave chloral hyd., pot. brom., a\u00b0 grs. xv., four hours apart, and suitable alternatives and tonics. She began to improve, was discharged cured in five weeks, and has enjoyed good health ever since, now seven years, *with all her faculties and functions intact.*

I have had come under my care a number of cases that have been advised to have abdominal section performed as the only remedy to reach the case, and I have had the satisfaction to see them happily recover their health under my treatment without such resort. As I have mentioned in several other journals, I am in favor of treating hydro-salpinx and pyo-salpinx, etc., by catheterizing the tube, draining and medicating through fine suitable catheters, by which means many cases can be cured without their ablation. The ureters can be catheterized up to the kidneys, and the Fallopian tubes are more accessible than they, especially when diseased, and it has been done.

I am *decidedly* in favor of first giving the woman every possible advantage of conservative treatment for her relief and cure before resorting to such surgical measures as will unsex her and destroy her marital appetite and relish during her life if she survives (?), and consequent affinity and love for her husband if she has, or may have one.

I have been enabled to happily relieve and to cure such a large per cent of my cases without abdominal section, and have preserved their sexual organs intact, where many others would have subjected them to such a sad calamity, that I plead earnestly for *more conservatism* in their behalf. Of course, when I find that removal of those organs is the only means of relief, and the urgency of the case is sufficient to demand it, I do not hesitate to resort to it to give her the last and only remaining chance left for her; but it must, with me, be the last resort; after other means have been faithfully tried and failed. I must close, but I hope that what I have written will serve as a useful hint
Correspondence.

73

to the beginner, and to those whose enthusiasm for the knife needs a little restraint as well.

THOMAS G. BRACKING, M.D.

KANSAS CITY, MO.

[EDITORIAL NOTE.—Erroneous clinical observations, and correspondingly erroneous deductions therefrom, are so frequently made by gentlemen lacking the special experience requisite for the diagnosis of just such cases that we think it well to point out the fallacy of arguments like the above, when used against any of the modern innovations of gynecological surgery. Dr. Bracking's statement that many women needlessly lose their uterine appendages is, unfortunately, but too true; his other assertions are, however, somewhat open to criticism. None of the cases cited would be considered, by any competent gynecologist, as suitable for either removal of the appendages, for hysterectomy, or indeed for any surgical operation other than the closure of the cervical tear in the third. All are very common types, which improve greatly under well-directed local and systemic treatment.

The statement that removal of the appendages renders a woman an "emasculated stoic," deprives her of the "charm of womanhood," destroys her "marital appetite," and "affinity and love for her husband," is only partly true, even when the removal is accomplished before puberty. When done later in life, the mass of evidence which has accumulated during the past few years points strongly to almost opposite conclusions. The married women who have lost their uterine appendages, and whose histories it has been possible to follow up, have only in rare exceptions lost any charm in face, figure, or disposition. "Sexual affinity" has not been abolished, but in many cases, by the removal of the pre-existing severe dyspareunia, has been virtually increased. I could cite an instance of one of New York's most charming society women, whose ovaries were removed some years ago for disease, and who, not losing a single womanly attribute, has even become more beautiful and charming than before.

The plea for a sharper and stricter definition of the lines of indication, and for less haste in rushing to surgical extremities, is most opportune. An overweening desire to swell their list of laparatomies has undoubtedly clouded the judgment, and perhaps the consciences, of some operators. Eight months ago, a young married woman came under my observation, who, three months before, had given birth to a child. Her only complaint was of profuse menstruation, which investigation showed to be
due to a hyperplastic endometritis. The patient passed into the hands of an enthusiastic laparatomist who cured the menorrhagia by removing the ovaries and tubes. In a second case, a nervous, hysterical woman was told by one who has many times performed the operation that she would die shortly unless the appendages were removed. I subsequently, with another gentleman, examined the woman carefully while under chloroform narcosis, and we both found the ovaries and tubes perfectly normal. With cases like these the moral is obvious.

Brooks H. Wells, M.D.

72 West 45th St., New York.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, November 6th, 1888.

The President, Dr. H. T. Hanks, in the Chair.

Dr. Coe presented specimen and narrated the following case for Dr. Hunter:

MALIGNANT DEGENERATION OF A UTERINE FIBROID, SECONDARY CARCINOMA OF THE LUNGS.

Miss G., æt. 52, single. Menopause at 47. General health good. Had sciatica ten years ago. Family history negative. Had been flowing for seven months, when she entered the Woman's Hospital (February 6th, 1888). Explorative laparotomy was performed March 6th, and the uterus was found to be moderately enlarged by reason of the presence of an intramural fibroid, which it was not thought best to remove. After the operation she was attacked with sciatica, which proved to be very severe and intractable. She was discharged from the Woman's Hospital and entered the Cancer Hospital June 8th, where she remained under observation until October. No disease of the thoracic or abdominal viscera was detected, and there were no glandular enlargements. The right nipple was retracted and the skin over it was adherent; around the nipple was a hard mass two inches in diameter. It was somewhat painful on pressure. Hyperesthesia of right leg, with some enlargement of this thigh as compared with the left. Some edema of both feet and ankles. The uterus was uniformly enlarged, with an additional nodule on the left side, and was movable; the cervix pointed backward.

Diagnosis,—Uterine fibroid. Possible scirrhous cancer of the breast.
The patient was discharged from the hospital early in October and re-entered the Woman's Hospital, when she was again examined and no evidences of thoracic disease were discovered. The urine contained a trace of albumin, but no casts. Supra-pubic amputation was performed by Dr. Hunter October 26th. The patient did not rally well from the shock, developed a high temperature, and died at the end of twenty four hours. Dr. Coe performed the autopsy and examined the specimens. The following is his report:

**External appearance.**—Body well nourished; abdomen moderately distended. In the median line is an incision six inches in length; at the lower two inches there is a gaping wound, at the bottom of which is a blackish stump. The edges of the wound present an unhealthy appearance. The right nipple is retracted, the entire mamma being hard and the skin adherent. The right thigh is larger than the left, the trochanter being more prominent.

**Thorax.**—The heart is of normal size, but flabby, the muscle being pale. Valves and endocardium normal. The lungs are not adherent. Both are filled with hard nodules (varying in size from a pea to a marble), surrounded by zones of inflammatory tissue. These are most numerous in the upper lobes. Both lower lobes are extremely congested and edematous. The mediastinal and bronchial glands are considerably enlarged.

**Abdominal cavity.**—Spleen and liver softened and congested, but contain no secondary growths. Left kidney small. Capsule firmly adherent; on stripping it off, the surface of the gland presents an irregular, granular appearance. Cortex narrow. Marked fibrous induration. Right kidney of normal size. Capsule not adherent; cortex pale. Stomach normal. Moderate congestion of serous covering of intestines, but no adhesions.

**Pelvic cavity.**—The body of the uterus and its appendages are absent, the cervix alone remaining. The stump presents a blackish appearance, but there are no evidences of sloughing. The bladder and rectum are normal. Pelvic connective tissue and peritoneum unchanged. There are about three ounces of inodorous, bloody fluid in Douglas' pouch.

The right breast was removed and incised; the cut surfaces presented a uniform fibro-cartilaginous structure. The pectoral muscle was not involved. An incision was made over the right trochanter, and the joint was examined but not opened. The head of the bone rested on the edge of the socket. It was not clear whether the deformity was due to an old dislocation or to previous arthritis.

**Microscopical examination.**—**Uterine tumor.**—This was quite soft and a milky fluid could be squeezed from the cut surface. Sections were made through the softest portion of the mass, adjacent to the uterine cavity. They presented a general fibrous structure, with groups of round cells, showing in some places a sort of alveolar arrangement.
Tumor of breast.—Under the microscope this presented the ordinary appearance of scirrhous cancer, the cell-groups being few and scattered about in a dense, fibrous tissue.

Tumors of the lungs.—These showed the usual structure of alveolar carcinoma.

Deductions.—From the history of the case it is evident that the uterine tumor was originally a simple fibro-myoma, which subsequently assumed a malignant character. Although the general microscopical structure suggests carcinoma, the extreme rarity of cancerous degeneration of fibrous tumors makes the diagnosis of sarcoma more probable. It is also doubtful whether the malignant transformation was secondary to the mammary trouble or not. The latter probably preceded the deposits in the lungs. It seems as if there must be some connection between the condition in the breast and lungs, and that in the uterus.

Dr. Murray.—Is it not very rare for a primary carcinoma to affect the uterus? A nulliparous woman is more apt to suffer from fibroid.

Dr. Byrne.—Was a microscopical examination of the small fibroma made?

Dr. Coe.—It was; the structure was that of an ordinary fibroma.

Dr. Byrne.—With regard to the occurrence of primary cancer of the corpus uteri, it might be of interest to cite the case of a patient aged 26, who was admitted to my department in St. Mary's hospital quite recently. She was a brunette, well developed, and apparently in perfect health; she had suffered from menorrhagia, but not excessive, for some months, but had little or no pain, and felt apprehensive merely because of the death of certain near relatives from cancer.

On examination the uterine body was found to be much enlarged, and though the cervix was also above normal in size, it seemed to be healthy; but just within the os, which was dilated, could be seen a soft medullary-like substance. A large quantity of this was removed by curette, and the more fibrous base, which sprang from the fundus, was excised by partially inverting the uterus and the surface thoroughly cauterized. She left the hospital in three weeks feeling perfectly well, though anything like permanent relief in such a case can hardly be looked for.

The President.—I have often thought that there is no reason why a fibroid should not degenerate like any other part of the body, especially a fibroid tumor of long standing. Why should we not have degeneration there as well as in the breast or other organ?

Dr. Byrne.—I desire to ask for information on one point: What are the views of advanced pathologists touching malignant degeneration of true fibromata?

Dr. Coe.—There are many cases in which such growths degenerate into spindle-celled sarcoma, but not into carcinoma. Sarcomatous degeneration is naturally to be expected, when a fibro-myoma assumes a malignant character.

A CRUDE STEM PESSARY.

Dr. R. A. Murray.—I have here a specimen obtained from a lady about twenty-six years old, who had been a sufferer from
pelvic peritonitis. She was thrown from a horse and struck on a paling of a fence; she had a severe sickness, and a pelvic abscess formed. She recovered from this trouble and married about six years ago. At times, when getting her feet damp, she has noticed some pain in the inguinal region; she had no leucorrhrea or menstrual disturbance. Two weeks ago she sent for me, as she was suffering with intense pelvic pain, and I found the tube and uterus enlarged. She exhibited to me a stem pessary used by another practitioner for dilating the cervix and treating her endometritis. It is made from a number five catheter, leaving a sharp edge; it had been inserted immediately after a menstrual period, and left for five or six days; a tampon held it in place. It had been reintroduced three times and given rise to septic endometritis. The jagged edge can be felt by running the finger along the end.

The President.—I cannot conceive why a man should use this device instead of a stem pessary.

Dr. Grandin.—It may have been intended for drainage of the uterus, which is now in vogue.

Calcified Ovary Associated with Uterine Fibroid.

Dr. H. M. Sims.—I have a specimen here of fibroid tumor of the uterus. There is nothing particularly interesting in the history of the case, which is that usual to fibroids. The patient is 35 years old and menstruated regularly up to eight years ago; she is unmarried. She did not seek medical advice until the hemorrhage became too great. She came here three weeks ago. I advised operation. Her menstruation lasted three weeks out of every four; and she was much run down, as she could not pick up again before the next menstruation set in. My intention was to remove the tubes and ovaries, and stop the growth that way. The patient had heard of electricity, but had no faith in it, and preferred operation. I had succeeded in removing the ovary on the left side, but could not find that on the right. I ran my hand down between the lateral walls and the tumor, trying to pull the ovary up, when it came away in my hand. I expected the blood to well up into the pelvic cavity, but this did not occur, and I found that the ovary was calcified and hardened, constituting really the only interesting part of the specimen. The patient made a good recovery. I have never seen an ovary like that before.

Dr. Byrne.—What relation did the uterine cavity bear to the tumor?

Dr. Sims.—The depth of the cavity was five and one-half inches; the whole tumor was large enough to fill the pelvic cavity, and was extremely difficult to lift up. I had to enlarge the incision much beyond the usual limit in order to get it out.

Dr. Grandin.—In view of the patient’s age and the consequent near approach of the menopause, would not thorough curettage, repeated, if need be, have been preferable to hysterectomy? The chief symptom, hemorrhage, could thus have been certainly checked, and this without risk to the patient.
Dr. Sims.—It might have done so. I have done it several times, but it did not come up to my expectations, and I would rather operate where the patient will submit. This patient was full of grit; she did not want any fooling, she wanted to get rid of the thing.

GLASS STEM FOR TRACHEOLORRHAPHY OPERATIONS.

Dr. C. Cleveland.—I present a uterine stem, which may be of some interest to the Society. It is to be used after trachelorrhaphy, in cases where both lips have been amputated, in place of a plug of cotton or gauze. There is a perforation at a point one-half inch from its lower extremity, through which a silver wire is to be passed to hold it in place. It is to be used in this way. After the deep sutures have all been introduced, but before they are twisted, another wire is passed through the anterior lip at a point in the middle, where it is intended the new os shall be, and about one-quarter of an inch from the cut edge. This is then freed from the carrying thread, passed through the perforation in the plug, again adjusted to the carrying thread and passed through the posterior lip in the same relative position as in the anterior. The plug is then ready to be introduced into the canal after the sutures are twisted. It is held in place by twisting, to the proper degree, the wire that passes through its perforation. It can remain in place till the sutures are removed. I have used it in several cases with entire satisfaction. Its advantages are these: it always stays in place, without support of tampon or cup pessary; never interferes with union at the site of the proximal stitches, as is often the result, when the stem with flange, that requires the cup pessary or tampon to keep it in place, is used; and is more cleanly. Lately, I have had one made with a groove encircling the stem in place of the perforation. These serve as well and are more easily adjusted, it being necessary merely to throw a loop of the wire around the stem in the groove, instead of passing the wire through the perforation.

Dr. Sims.—The operation that Dr. Cleveland speaks of is one that I have been doing for eight years or more; I call it excision of the cervix, and I have always been using a stem after the operation. The cases to which it is adapted we are all familiar with. I have been using a little round stem made of hard-rubber. Now I have found a better one which is larger at the bottom, and which I use for the purpose of evertting the lips, and keeping the canal open. The flaring bottom rolls one lip upward, the other downward. As to the perforation, that is not necessary and will not drain, no matter how big the channel. The groove is likewise superfluous, as the secretions escape very readily along the stem.

Dr. Cleveland.—Dr. Sims has misconceived the whole construction and purpose of the instrument. There is no perforation through the centre nor groove at the sides, nor is it designed with any reference to drainage. It is merely a stem for keeping the canal patulous, with the objectional features, attending the use of the stem with flange, removed.

The President.—This instrument will do away with an as-
sistant, and with putting in cotton tampons, which have to be replaced at frequent intervals.

DR. CLEVELAND.—Do you find it will stay in place after trachelorrhaphy without the use of cup-pessary or tampon?

DR. SIMS.—Yes, if you take out a V-shaped piece. The cup will fit in every nicely, but we must have cups of different sizes.

IMITATION WIRE GAUZE FOR BINDERS.

DR. G. E. ABBOTT.—During the summer, I found that several ladies suffered from the heat of an ordinary thick bandage. This so-called imitation wire gauze, used for window screens as mosquito bars, is very strong and tough, and makes a good binder after labor or laparatomy, especially in those cases where a high temperature makes the use of the abdominal ice coil advisable; also in any case, male or female, where it is necessary to narcotize the patient. I use this gauze binder on the slightest indication of tympanites. It allows the circulation of air, permits the perspiration to pass freely, and prevents the distention of the intestines by gas. I have found it very useful. If the material is first washed and the starch thus removed, it is very comfortable.

DR. R. A. MURRAY read a paper entitled:

PREGNANCY AND PARTURITION COMPPLICATED BY HEART DISEASE.

Among the many severe complications of the pregnant and parturient states which have come under my care during a somewhat extensive practice, there have been quite a number of cases in which heart disease, either chronic or recent, has been a most important and sometimes a fatal complication.

In my study of these cases, it was with much surprise that I could find so little observed or written upon the subject. Most of the noted authorities on midwifery content themselves with the short remark that heart disease as a complication of labor demands prompt delivery, lest the patient be exhausted, and that the forceps should be used at an early stage to prevent bearing-down efforts.

Even as recent a writer as Leischman makes no mention of this topic.

Now it is unquestionable that pregnancy in a woman affected with heart disease is a matter that demands the most careful attention, and the approach of confinement is a cause for the greatest anxiety and apprehension on the part of both patient and physician, yet this anxiety may be entirely unwarranted, if a careful discrimination is not made as to the kind and degree of the heart disease. Out of a number of cases occurring in my practice, I present the histories of two or three which exemplify the deductions I am about to make.

On February 6th, 1879, I was called to attend Mrs. S. for bronchitis. I found Mrs. S. a primipara, in the ninth month of pregnancy, slight build, weighing about 100 lbs., suffering from dysp-
nea, which caused her to sit up all the time, with a constant ineffectual cough, which prevented her sleeping and caused intense pain in abdominal wall; great edema of feet and limbs which had been marked for previous three months; faintness on slightest exertion, spots before eyes, and flushing of face, becoming partially cyanosed on coughing.

She thought she had taken cold, as the symptoms had become worse in the preceding two days. On examination of chest, I found marked edema of lungs; on auscultating the heart, which was very difficult to do on account of the rapidity of breathing, I found it acting tumultuously, with an intermittency every third beat, and aortic obstruction, regurgitant, and mitral regurgitant murmurs.

The heart's area was much enlarged, due to dilatation of the left ventricle. As the patient was very nervous, I could obtain no history from her. She knew she had heart disease, but did not comprehend its gravity. From the husband I learned the following history: At the age of fifteen she had a very severe attack of relapsing fever, followed by debility and breathlessness on exertion; but the most prominent trouble was fulness of head and scintillations of light before the eyes on turning the head; for this she was treated by an eminent oculist, who sent her to the late Dr. Flint, who told her of the heart disease which her own physician had overlooked. On my explaining the condition of the heart and the gravity of the case to her husband, he desired me to attend her confinement, her regular physician having declined because of her condition.

By the use of ten drops of tincture of digitalis, and a small dose of opiate every two hours, the cough, dyspnea, and pain around the heart were relieved, and she had fairly good sleep.

The next day the lungs were very much cleared, râles only being heard at the base, the heart's action regular but rapid, the cough and breathlessness better, so that she could lie down for a while at times; the urine increased in quantity, but was one-twentieth albuminious. Auscultation of the heart confirmed my diagnosis of the night before.

I changed the tincture for the infusion of digitalis in two-drachm doses every third hour with one-tenth grain sulphate of morphine, and applied a belladonna plaster over the heart, covered with cotton, which greatly relieved the tumultuous action. At 7 p.m. February 7th, the same day, labor commenced, and all that I had seemed to gain was lost, as at each pain the heart at its acme would almost arrest its action: in the intervals of pain the heaving impulse communicated to the chest, and the breathlessness caused her to feel as if the chest would burst. Stimulants and opiates were given freely and the digitalis increased. A flaxseed poultice was applied over the heart and dilatation of the cervix hastened by warm vaginal injections. I told the husband and
the patient that, as soon as the mouth of the uterus dilated, I would apply forceps and terminate her pain, though I could not give either chloroform or ether to relieve the suffering on account of the danger from edema of the lungs; this was acceded to; and as the os was sufficiently dilated in three hours, I ruptured the membranes, thus giving vent to a large flow of water and relieving the patient very much, and applied forceps at the superior strait to a very large head, and in twenty minutes delivered a healthy male infant which weighed ten pounds.

The perineum was torn to the second degree by reason of the necessary rapidity of labor and the largeness of the child, but being sutured immediately with silver wire, made an absolute union. As I had anticipated from previous observation of these cases, the danger is not over with the delivery. In fact, there is a great tendency at first to hemorrhage; next, and especially when the aortic valve is affected, to syncope (which may be fatal); to cerebral and pulmonary embolism; and lastly, to an acute attack of pulmonary edema.

Hemorrhage was checked and the uterus and vagina cleaned by hot one-per-cent carbolized intra-uterine injection. The uterus contracted well, and a firm binder, which was adjusted before the delivery, was now tightened, preventing determination of blood to abdomen which Spiegelberg states frequently causes attacks of syncope.

The heart's action under the influence of digitalis continued good but rapid, about 100, intermittent though regular, until the evening of the third day, when, without rise of temperature, the pulse rose to 145, became small and thready, dyspnea became extreme, and an attack of edema of the lungs came on; the kidneys had worked well, the albumin had almost disappeared; the attack was so severe that her life seemed absolutely lost. Dry cups were applied to chest, fifteen minims of tincture of digitalis with brandy given hypodermically every twenty minutes, and as soon as ether could be procured, thirty minims were injected; nutrient and stimulant enemata were given of beef-tea and brandy, and after four hours of very hard work, the lungs having cleared a good deal, morphia, a hypodermic, quieted the breathlessness, and the patient slept. February 11th, the patient, though much better, was seen by Professors Austin Flint, Sr., and W. R. Gillette in consultation; both agreed with me in diagnosis and treatment and recommended that the digitalis should be continued in full doses, concentrated nourishment being given.

Under this treatment the patient convalesced without fever, and in four weeks after labor was able to ride out.

The heart always remained rapid and the intermittency continued in spite of iron and nutrients. Exercise brought on dyspnea and the irregular action of the heart often caused sleeplessness. The child was nourished by the bottle and throve well.
About five months after confinement, this patient died of edema pulmonum; after an attack the day before of cerebral embolism with right hemiplegia; consciousness not returning after the attack.

The second case is that of Mrs. H., primipara, aged 25, who had rheumatism when 13 years old, complicated with endocarditis, which subsequent attacks of a milder type, at about yearly intervals, made worse. At the time I first treated her, when about 20 years old, she was subject to attacks of follicular tonsilitis, urticaria, and bronchitis, always accompanied with marked dyspnea, profuse expectoration and racking cough which I recognized as due to the rheumatic diathesis and heart trouble. She was also very easily excited and, when so, would have tumultuous action of the heart, suffocative feeling in chest, and fullness of head, as if it would burst, the heart's pulsation being felt in carotids and ears so that sleep was impossible. At my first visit, when she suffered with bronchitis, I found that the heart was enormously hypertrophied and dilated, the chest heaving with each pulsation; there were an aortic and mitral obstructive and regurgitant murmurs; the hypertrophy did not compensate for the valvular disease.

By my advice, for five years she refrained from marriage, but when 25 she married. About four months after this she came to my office and I found her pregnant to the third month; her feet were slightly edematous. She suffered from dyspnea, the urine abundant, not albuminous, the heart's action irregular and intermittent.

She was very desirous of carrying the child to the viable point, and as her husband's sister, who had heart disease in a mild form, had two children, I could not make either the patient or her husband thoroughly understand the gravity of the case.

Dr. W. R. Gillette saw the case in consultation, said he had never listened to a worse heart, explained the case to the relatives, but they wished to see if the system would tolerate it, and indeed the outlook, even if miscarriage had been caused, was very grave. The case proceeded till the fifth month, when the edema of feet was enormous, the dyspnea so extreme that the sitting position, with head supported, had constantly to be maintained, cyanosis on slightest exertion, and a harassing cough due to edema of lungs with painful, irregular, and very rapid action of heart demanded interference with the pregnancy. After consultation, labor was stimulated by the introduction of a catheter into the womb with antiseptic precautions, and in six hours from the initial proceeding, without much pain or bearing-down effort, the uterus was thoroughly emptied; the breaking of the amniotic sac and escape of a large amount of water relieved considerably the dyspnea.

The emptying of the uterus was of but temporary relief; in a
few hours another attack of edema pulmonum, which could not be overcome by dry cups, digitalis, strophanthus, or powerful stimulants, closed the scene.

Dr. Wm. T. Lusk also saw the case in this last attack.

But one more case I shall mention where the heart lesion was not so severe, being aortic obstruction, with hypertrophy and slight dilatation.

Mrs. H., aged 43, I attended in her tenth pregnancy. She had seven full-term labors and three miscarriages. As a result of aortic obstruction, hypertrophied and dilated heart, she had epistaxis, profuse hemoptysis, and I believe thoroughly, the miscarriages were due to the cardiac trouble.

The first symptom of pregnancy in the last five, during the first month before the second menstrual period arrived, was a profuse hemoptysis, one of which was so severe that it was only controlled by holding the arteries to upper and lower extremity, and depressing the head.

There was always profuse menstruation and, at these periods, dyspnea and oppression of the breathing.

On the 20th September, 1888, she called to engage me for her approaching confinement. She had much dyspnea, some edema of the lungs, her heart's action irregular, marked edema of feet and hands, but on examination the urine showed little albumin.

By the use of tincture of iron and digitalis, and rest in bed, the compensation of the left ventricle relieved the edema of the lungs and also that of the feet, so that on September 30th, when labor commenced, she was in better condition. When the pains became marked, however, the action of heart became irregular, shortness of breath was so severe that she could not lie down, and pain in the left side prevented even the lateral decubitus; cyanosis and edema of lungs came on after four hours, during which the pains dilated the os only about half-size, but it was soft and dilatable.

As the head did not descend at all, and remained movable above the superior strait, the waters were now ruptured, relieving the sense of oppression, but the pains were inefficient, though frequent, as the patient could not hold her breath to bear down.

As restlessness, frequent pulse (120), dryness of skin, shortness of breath and edema of lungs seemed on the increase, the patient was brought to the edge of the bed, the forceps applied while patient was in the semi-reclining position, and the labor was terminated in thirty minutes, the acute suffering being relieved by morphia and digitalis hypodermically. The patient was much better after the delivery; and stimulants, concentrated nourishment, and digitalis with morphia quieted the heart and lungs, and the edema disappeared. For two days the patient maintained the semi-recumbent position, but otherwise convalescence was uninterrupted.

There are some points particularly noticeable about pregnancy complicated by heart disease:
First. The heart symptoms are made worse, edema of feet, ascites, and edema of lungs are apt to come on long before the enlargement of the uterus, and its pressure on blood-vessels and neighboring organs ought to cause it. The oppression of breathing and the choking feeling in the chest is complained of greatly. This Spiegelberg explains by the plethora of pregnancy and increased arterial tension.

With this, there is a great tendency to hemoptysis; in two cases, besides the two narrated above as having this symptom, the patient has suspected the pregnant condition, before the first month has passed, by the occurrence of a free hemorrhage from the lungs, much to the relief of the choking feeling in the chest. Hemoptysis has been present in both these cases in more than one pregnancy; in one in three, and the other in two pregnancies; both these cases have mitral lesions.

The tendency to the hemorrhages diminished as the pregnancy proceeded, and disappeared after the fifth month.

In but one of the three cases has there been any chronic lung trouble.

Second. Cough is an annoying and persistent symptom; in all the cases of marked cardiac disease with pregnancy, cough has appeared at some time, very frequently in the early months, but always more severe and persistent in the later.

I believe it at first is due merely to increased arterial plethora, or more probably to the nervous effects of congestion and enlargement of the uterus. Later on it is due to the chronic engorgement of the lungs due to insufficiency of compensative hypertrophy.

The late cough is generally by the patient imputed to a cold; and if the physician sees the case for the first time, he is usually called for the purpose of treating a cold so as to relieve the pain of the muscular tension of the abdominal walls and the concussion of the uterus. The cough itself, without edema of the lungs and its resulting carbonic-acid poisoning, may be, and frequently is, the immediate cause of the labor.

Third. Uterine hemorrhage and abortion are stated by most writers as a result of chronic cardiac trouble in pregnancy.

I have observed in many cardiac cases that menstruation was profuse, prolonged, and painful; sterility exists; this sterility is not due to lack of fecundation of the ovum, but to its being swept away from its attachment to the uterine mucous membrane by the next menstrual flow; delay in the oncoming of the period for two or three days being noticed, followed by profuse, painful flow.

For the same reason abortion and miscarriage result. Many times I have seen miscarriages with none or but slight physical or mental shock as an exciting cause, where the sickness was ushered in at the third or fourth month by a sense of distention suddenly felt in the womb, a flow of blood externally, followed by uterine pain; the detached placenta coming easily intact, with a large
dark firmly coagulated clot attached to its uterine surface; and by this I have been led to examine the heart, and found chronic cardiac trouble; in fact in quite a proportion of the miscarriages I have attended, apart from violent efforts or physical injuries as a cause, where the placental apoplexy was present, I have found heart trouble as the frequent cause. The easy detachment of the after-birth is remarkable, as the placenta in miscarriages is usually adherent and very slowly and imperfectly detached.

Post-partum hemorrhage very frequently occurs in chronic cardiac cases; in but one instance have I seen it alarming, and it was controlled by digitalis hypodermically, and ergot by mouth; I have never seen it become dangerous where digitalis has been used freely, as it slows the action of the heart, contracts the arteries, and causes contraction of the uterus.

Fourth. The amount of amniotic secretion in the class of cases under discussion is peculiar. Very often the enlargement of the uterus in the early month is so noticeable as to cause a suspicion of dropsy of the amnion; and later on the distention may be so great as to interfere seriously with locomotion and breathing, and become a very grave symptom.

The relief to the embarrassed circulation, edema of the lungs, and to the bearing-down efforts caused by the evacuation of the water must never be lost sight of in the treatment of these cases, though the temporary effect of this procedure often disappoints, yet it affords a valuable means of gaining time to get other remedies to act, and by reducing the size of the uterus causes the muscular fibre to act more advantageously—in dilating the cervix, which accomplished, the accoucheur by forceps, version, or other methods can complete the labor expeditiously.

Albuminuria is very frequently caused by the increased tension or the arterial system; sometimes, and where marked dilatation of the heart and insufficient mitral valves are present, it seems to be due to venous engorgement. By the albuminuria the blood is made thinner, the nutrition of the vessels is impaired and we have increased tendency to transudation.

The delivery happily ended, the puerperal condition of these patients is still cause for anxiety; the heart does not readily adjust itself to the change. Just as frequently a patient passes the crisis of lobar pneumonia with a chronic heart lesion, the temperature fallen, the oppression and pain in breathing diminished, when a sudden attack of edema of the lungs causes a fatal determination. The heart seems to react from the strain put upon it by the labor, becomes more regular, the systole well marked, when suddenly it becomes irregular with painful palpitation, restlessness, dyspnea, cyanosis, even absolute stoppage may occur in the first few days after labor; or an attack of embolism, apoplexy, pulmonary thrombus, or edema of the lungs may result fatally.
Macdonald¹ narrates a number of such cases, and the above-stated histories fully confirm his statements.

The heart complications produce symptoms as in the unimpaired state, depending upon the particular lesion. In aortic insufficiency the patients complain of dizziness, headache, and spots before the eyes and are prone to apoplexy; in stenosis they look pale, are prone to syncope and show signs of anaemia of the brain.

Mitrāl disease is much the more frequent lesion seen and it is certainly the most grave. A large proportion of the tabulated cases where heart disease complicated pregnancy show mitrāl disease. This is due, I believe, to the fact that aortic disease is almost always associated with atheromatous changes in the arteries, a condition of later life.

As a result of the mitrāl trouble, there is constantly a tendency to overloading of the pulmonary vessels; the physiological hypertrophy of the left ventricle which occurs in pregnancy compensates for aortic trouble, but the hypertrophy of the right ventricle is not equal to obviating the mitrāl disease; so these patients even early in pregnancy have shortness of breath, cyanosis on exertion, congestion of the kidneys, and later on, where the uterus is enlarged and presses on the veins of the kidney, scanty albuminous urine, and even bloody and hyaline casts. Uremic symptoms may then develop and eclampsia add its dangers.

The prognosis in pregnancy and labor complicated by chronic heart disease is bad for both mother and child.

Macdonald, who tabulates and narrates the histories of twenty-nine cases, found that twenty-two had mitrāl disease. Of these fourteen were affected with stenosis and eight had insufficiency. Of his cases sixty per cent ended fatally, nine out of fourteen affected with stenosis died; three were primiparæ and all died; four were primiparæ, two died; two Vıparæ and one died.

Out of thirty-one fatal cases by Porak,² twenty-five died after delivery; five before and two during labor.

As was before shown, but a small proportion of cases are able to go to full term. The full account of the bad effects of the complications can only be estimated by noting the number of miscarriages.

Duroriez observed 21 miscarriages among 41 women with heart disease; 5 were delivered at six months, 37 of the children who were born alive died before reaching five years. Among 220 cases collected by Courrejol and Porak, but 128 were delivered at term.

The infant mortality is large, children are frequently born cya-

¹ "Bearings of Chronic Disease of the Heart upon Pregnancy, Parturi-

² Charpentier, "Cycl. of Obstet. and Gynecology," Vol. ii. Wood,

³ London, 1878.

⁴ Wood, 1888.
nosed from imperfect oxygenation and quickly succumb, or from imperfect development to which they are predisposed die early. Etiologically, rheumatism is the most powerful factor, but diphtheria, relapsing and scarlet fevers, and indeed almost any of the septic diseases may be causative of the endocarditis which terminates in valvular lesions and chronic heart disease.

Treatment.—Prophylactic treatment demands that in every case where chronic heart disease is known, and especially if there is disease of the mitral valve with insufficient compensation, the system being affected by it, the patient and her parents, if possible, should be warned of the great danger of marriage. If the patient consults the physician when pregnant, the heart should be carefully examined; it should be made a matter of duty of the physician to do this that proper treatment may be instituted. The pregnancy should certainly be arrested, if advanced heart trouble be found, particularly if the patient be at the time suffering from mitral lesions with its accompanying dyspnea, albuminuria, and pulmonary engorgement; but only after careful consultation, as the dangers from abortions or premature labor, even with proper antiseptics, are still great in this condition. As pregnancy is often terminated prematurely by carbonic acid poisoning, and the child has then no chance, its life should not be weighed too greatly, in comparison with the mother, though her chances may not be great.

Rest is absolutely necessary to give the heart an opportunity to nourish, by slowing its contractions; the patient should not do laborious work or walk up flights of stairs. The diet should be simple, nutritious, and constipation avoided by the use of saline cathartics.

Iron and tonics should be given, particularly strychnia, in all cases where hypertrophy is not marked, to prevent the degeneration of heart fibres which inevitably results from endocarditis and predisposes to dilatation.

In the late condition of insufficiency of the heart with dilatation, we have no remedy equal to digitalis. When immediate effect is needed as in edema of lungs and eclampsia, it should be used in the form of the tincture hypodermically, the drug being pushed to its full effect of slowing and quieting the heart's action. Morphia is a powerful adjunct to it, and besides quieting the restlessness of the patient, renders more permanent the action of the digitalis.

As soon as the heart is under control, the infusion of digitalis may be substituted, combined with bitartrate of potash if its effect on kidney or bowels is necessary.

Strophanthus I have not found as efficient, although it does not act as digitalis in contracting the arterioles.

The use of the alkaline mineral waters in this condition to affect the kidneys, unless very carefully watched, is very dangerous, as
they depress the force of the heart, increase the amount of the circulating fluid, and dispose to degenerative change in the myocardium unless accompanied by the free administration of iron, particularly the tincture of the chloride.

At the time of labor every effort should be made to terminate it expeditiously, and to mitigate the bearing-down efforts.

Should chloroform or ether be administered at the time of labor?

Chloroform and ether do undoubtedly moderate the suffering, soften the cervix and relieve the shock of labor, all effects which are desirable in these cases; but chloroform also depresses the heart and tends to its stoppage if weakened. Ether cannot be used in midwifery to alleviate suffering short of moderate narcosis, without rendering the patient restless and even uncontrollable, and though a powerful cardiac stimulant, certainly predisposes, by its irritancy to the lungs and bronchi, to cause edema.

Much depends on the amount and effect of the heart disease. In aortic trouble with fairly compensating hypertrophy I have used chloroform and ether carefully, but where dilatation was marked and there was apprehension of edema of lungs by bad mitral disease I have thought it best, even in cases where I had to use the forceps, to use morphia and alcoholic stimulants with digitalis.

Venesction to relieve attacks of edema of the lungs or the embarrassed circulation is to be recommended, as it is of but temporary service and, as Niemeyer shows, thinns and weakens the blood so that transudation is soon made worse.

The vital matter is to terminate the labor as expeditiously as possible; as soon as the os is fairly dilated and dilatable, forceps, external or combined version, should be employed, and the child delivered; the manipulations should, however, be done with the greatest possible care to avoid undue shock. Rapid delivery itself adds such a shock to the system that accouchment forcée cannot be recommended.

In the after-treatment, care should be taken not to relax the supporting treatment of the heart, bearing in mind the frequent fatal terminations after labor. Digitalis should be continued, iron and tonics should be maintained. If hemorrhage post partum appears, the hot douche and ergot should be used.

Subsequent pregnancies should be avoided, as Macdonald and Fry¹ have shown the increasing dangers in a weak heart of repeated pregnancies.

Dr. McLean.—I indorse all that Dr. Murray has said. I think that the valuable suggestion as to the avoidance of hemorrhage, and hence of child-bearing, ought to be emphasized more than we are apt to do. We ought to look out for cases of heart complication and prevent this great danger. I have always used

Barnes' dilator, by which rapid dilatation takes place without much shock to the patient. As regards the etiology, the statement that diphtheria is a direct cause of endocarditis is something new to me. It will cause degeneration of heart fibre, but simple uncomplicated diphtheria has never been thought to cause endocarditis.

Dr. C. Jewett.—The subject presents some unsettled questions. I saw within the past year three cases in succession. The first case was a primipara, a patient of Dr. George R. Fowler; she had mitral stenosis, but compensation was good. She got through labor fairly. Dr. Westbrook saw the case in consultation and suggested bleeding. Sixteen ounces of blood were taken from the arm. This patient recovered. Another case, which I saw also with Dr. Fowler, was a primipara with mitral regurgitant lesion. This patient had syncopal attacks and died. The other patient was one where the lesions were not made out. She was a multipara, stout and of gouty habit. She suffered from edema of the lungs which was relieved by hypodermics of morphine; another attack was relieved in like manner. I saw her later and advised strophanthus. I delivered her in the evening by version in a sitting posture. I used either chloroform or the A. C. E. mixture. The patient died suddenly at the end of twenty-four hours. A very interesting question in connection with this subject is the cause of the cardiac failure. It is usually ascribed to overloading of the right heart, but it does not seem that this is a good explanation.

Dr. Coe.—Dr. Jewett might find an explanation of this phenomenon in the condition of the heart in connection with abdominal tumors. I have often noticed great irritability of the heart after extirpation of large fibroids or fibro-cysts which is usually attributed to disturbance of the balance of the circulation by the sudden removal of a large quantity of blood. It accounts for the irregular action of the heart after laparotomy has been performed. I have noticed several cases in which the patient died of cardiac failure. Only to-day I came across an article by Fenwick on fatty degeneration of the heart in connection with abdominal tumors; he found that it is not an unusual condition and explains it in this way: In large abdominal tumors, the pressure on the heart is not only more prolonged, but more direct; while in cases of pregnancy the pressure is intermittent and is relieved by the delivery. I have noticed fatty degeneration of the heart as an accompaniment of abdominal tumors; I have seen cases of actual valvular lesion, where there was immediate improvement after laparotomy.

Dr. Von Ramdohr.—My opinion coincides with that of Dr. Coe. In later confinements, which are supposed to be, and usually are, more dangerous, there is generally a secondary aortic trouble. Dr. Murray has been very fortunate in seeing so many women with heart disease. I have only met with four similar cases whom I have confined, and these never had any trouble, except one case where there was edema of the lung resulting from extreme heart disease which does not seem to be very frequent. Winckel, among eight thousand cases, had only twenty-two cases of heart disease complicating pregnancy; of these, only one woman died at full term. In the clinic at Berne of which statistics are mentioned, there was only one death from heart disease amongst twenty-five women confined ninety-three times. Winckel thinks it is improper
to interfere with heart disease, for example, by the induction of premature labor, which would more than compensate for the natural dangers, unless immediate interference is demanded by edema of the lungs. In the way of treatment, hypodermics of ether are of extreme value in edema of the lungs.

Dr. Dudley.—I have no experience with labor complicated by heart disease, but I would like to take exception to the theory that the heart complication is due to loss of blood. I would rather ascribe it to venous pressure from removal of the abdominal pressure, allowing the water to return to the tissues and heart, and hence we get edema. The loss of blood would not produce edema, as would the return of water, or the rapid return of venous blood, as a consequence of which there is edema and paralysis of the heart.

Dr. Morrill.—I have had only a single, similar case. I was called to a woman in labor attended by a midwife, who informed me that the patient required the application of the forceps. When I arrived, the woman's appearance attracted my attention and I saw there was something more important. I found pulmonary edema from cardiac trouble, and the patient unable to recline. I saw that delivery was important, prescribed carbonate of ammonia and digitalis, and delivered her almost in the standing posture. After delivery she improved for two days, when I went out of town. On my return I learned that she had been attacked with pulmonary edema and died.

Dr. Sims.—I can testify to the correctness of what Drs. Dudley and Coe have said with reference to the disturbance of the heart's action after removal of tumors. A year ago I had a case where the pulse rose to 102, while every other symptom was normal. No treatment seemed to have any effect; I watched the temperature, and gradually the pulse came back to the normal state. Complication of the heart of that kind used to frighten me at first, now I let it go. Pressure must have something to do with the heart's action. The same argument would apply to the pregnant uterus.

Dr. Grandin.—I have had no experience worth mentioning in this direction, but I would like to ask the gentlemen who have had it, whether the physiological hypertrophy of the heart during pregnancy has any favorable influence on the heart lesion.

Dr. Murray.—The cases always get worse: that is the point that Dr. Von Ramdohr has tried to explain.

The President.—I have had two cases belonging to the class forming the subject of Dr. Murray's paper; the two came very near together in my earlier practice and worried me very much indeed. I was sent for to attend a woman in labor. When I arrived, I found a primiparous woman in the beginning of the second stage of labor. The child's head did not pass through the cervical canal. I waited for some time, when the respiration became rapid, a large quantity of bloody frothy sputa was being raised, the heart's action became bad, and I inquired if the woman had had rheumatism; she had, and had had pain about heart, etc. As she was getting worse every moment, I sent for the priest and assistance, and for my forceps which arrived five minutes before the clergyman and Dr. Bates. The forceps were being applied as the patient died with edema of the lungs. The child was delivered as quick as possible, but was dead.

The second case was in better circumstances; she had valvular
disease of the left, and enlargement of the right heart. She went to full term and had all the symptoms mentioned this evening. The child was delivered alive with very little difficulty. While I was in the front room attending to the child, I heard a peculiar cough in the sick-room and hastening there, I found the patient breathing rapidly and raising bloody sputa and presenting all the symptoms of edema of the lungs. In this case, with ammonia and digitalis hypodermically, dry cups, etc., I was able to bring her about and she finally got well. She has had two children since.

**Dr. Murray,** in closing the discussion, said: I have had quite an exceptional number of such cases, two out of three proving fatal; and though I had two very good men to assist me in one case, yet the patient died in ten minutes after delivery. Another case was sent to me where the patient had very severe heart trouble, all the valves of the heart being diseased. That case was lost. One reason why I have seen so many of these cases is that they were sent to me by other physicians, and I have been very apprehensive of them. The statistics which Dr. Von Ramdohr has given do not tell us how much these cases complicate pregnancy, because a great many will miscarry on account of the deficient oxygenation of the blood, and the menorrhagias and metrorrhagias due to the irregular action of the heart. Even in premature labor I have seen severe effects. Many of those here given had been cases given to midwifery students, but I have seen quite a number otherwise. I have tried to make a careful investigation of the deaths from all causes in labor, both heart and labor cases, and leaving aside cases that were denominated puerperal or septic types, I found in approximately 22,000 labors, a ratio of 16 out of 282 deaths, where it was really heart disease that caused the fatal issue. A great many of the septic troubles gave as a cause of death disease of the heart which I threw aside. Diphtheria is one of the most serious diseases in its effects on the heart, entailing myocarditis and ulcerative endocarditis, aside from the direct action at the time. In examining a number of cases where there was no rheumatism, etc., and in patients who were young, I found many cases of heart disease traceable to no other cause than diphtheria.

**Dr. McLean.**—I have alluded to myocarditis, it was endocarditis that I took exception to.

**Dr. Murray.**—There is one point I would have liked to hear about; that is, about chloroform and ether in cases of labor. We use chloroform in operations, but in heart cases where the disease is mitral, it is unsafe to use either ether or chloroform during labor. Moderate narcosis is useless. The mixture is no better. I generally use morphine and digitalis and stimulants and never had any bad effects, or complaints as regards the pain.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of October 4th, 1888, concluded.

Dr. T. M. Drysdale in the Chair.

Dr. M. Price reported a case of

PYO-SALPINX WITH RUPTURE.

On the 6th of September I was called to Mrs. —, with symptoms of miscarriage, with pain, hemorrhage, and slight odor to the discharge. She refused to have an examination, saying she knew she was not pregnant. I left her with the understanding that when she was ready for me to examine her to send for me. On September 10th I was again called and found her in great pain; the discharge of blood and broken down placenta were of the most offensive character. She stated that she had been perfectly regular up to her last period, which was delayed about one week. She had considerable fever, a temperature of 102° and had had that morning a severe chill. On examination, the uterus was found about four inches in depth, with part of a rotten placenta adherent to its right posterior wall. The uterus was in good position and perfectly movable, with both tubes enlarged and thickened, and at this time could not have been adherent to any surrounding structures. I removed the placenta with considerable difficulty, used hot water irrigation with boric acid in the uterine cavity, which for a time gave her great relief. These irrigations were continued and the uterus washed out twice a day for three days, all this time the tubes continuing to enlarge, until they must have contained several ounces of matter and could have, at this time, been easily removed. The irrigations into the uterus were discontinued, and those of the vaginae were kept up. I became very much alarmed at her condition, and stated to the husband that an operation was needed to save his wife's life. This he refused, and begged that I should do all I could without the operation. I yielded to his request, much to my regret, for I felt that nothing but an immediate operation and removal of the tubes, which then would have been possible, as there had been little, if any, leakage up to that time into the peritoneal cavity, would save her life. I believe that any man treating a case of this kind with the symptoms as positive, and the indications as plain, as they were in this case for operation, should have retired from the case, for by so doing he clearly indicates that his mind is made up as to the treatment and the only chance to save, and by so doing shows
to the medical attendant who may be called to the case the proper line of treatment, and if he does not take the warning, the post-mortem will follow and show who was right. There were several well-marked changes in her condition, indicating rupture or leakage from the tubal abscess, and her condition steadily grew worse until the 20th, when, in consultation with my brother, we persuaded the family and the patient to let me operate and give her that chance for life, as she was in a very bad septic condition. As the consultation was at a very late hour at night, she was opened early the next morning (21st). I found the internal organs matted together, uterus much enlarged, both tubes enlarged and ruptured, adherent to everything they touched, pelvis full, pus cavities almost up to the kidneys on both sides; everything in a semi-gangrenous condition; but little bleeding from ruptured adhesions or from wound in opening abdomen, which is never a good indication. A great quantity of pus was evacuated, at least two pints, of the most offensive character. Irrigation and drainage were used. The patient was a very large woman, consequently the longest drainage tube we could find was used. She rallied from the ether, and for the first six hours there was discharged from the drainage tube two pints of very offensive serum. It gradually lessened in quantity, but increased in offensive character. A cleaning of the tube was made every half-hour; after cleaning, warm boracic water was injected through the tube. It improved matters only for the moment. Patient died twelve hours after operation. Present at the operation: Drs. Joseph Price; E. W. Cushing, of Boston; Atherton, Toronto; Roseburg, Hamilton, Ontario.

Dr. W. H. Parish said that his remarks on this subject of pelvic abscess made at the recent meeting of the American Gynecological Society had been misquoted. He had stated there and wished to repeat here that these abscesses should be opened very early. If operation was not resorted to, the patient would most probably either die or become a confirmed invalid. He was not one of those who believe that pus always originates in one particular point in the pelvis. He did, however, believe that the large majority of cases occur because of pus primarily in the tube. He believed also that an uncertain number occur from pus originally found in the areolar tissue, beginning probably because of of lymphangitis of that particular locality. The question arises as how best to operate in these cases. He held that there could be no absolute rule of procedure. He believed that in the majority of cases it was wiser to make an opening in the median line and explore the peritoneal cavity, unless we are very certain that the abscess is not in the tube or ovary. If we are sure that there is no involvement of the appendages and that the pus is not intra-peritoneal, the abscess may be opened without going into the cavity. He called attention to a procedure which he had adopted in a few instances, where small abscesses were located in pelvic areolar tissue. In one instance Dr. Longaker made an incision in the median line. The tubes and ovaries were found free from
pus, but of course congested. With the fingers within the abdo-
men he felt in the anterior pelvic wall an abscess. An incision
was made over Poupart’s ligament as for ligature of the external
iliac. Then passing deep into the pelvis, pus was reached some
distance below the brim of the pelvis. In another case, there was
an indurated mass apparent above the left half of the pelvis, not
recognizable through the vagina, except on very deep pressure.
An incision was made above Poupart’s ligament. After cutting
through very dense tissue, he came to a minute cavity which con-
tained no pus, but a somewhat serous fluid containing flakes of
lymph. These are only two of a considerable number of pelvic
abscesses on which he had operated, and he had never regretted
operating early.

Dr. J. M. Baldy wished to take this opportunity of empha-
sizing views which he had expressed before the recent meeting of
the American Gynecological Society. He did not agree with Dr.
Parish as to the pathology of this affection. He granted that
there was the possibility of an abscess occurring in the pelvis,
such as occur in other parts of the body from the scalp to the foot,
but that these must be most rare. The gentlemen connected
with what Dr. Parvin had been pleased to call “The Philadelphia
Dispensary School of Surgery” had now done over one hundred
of these operations and had not yet in a single case come across
one which had not begun primarily in the tubes or ovaries. In
every case the diseased mass removed has been tube, ovary, and
other tissues involved. (Dr. Parish, at this point, asked wherein
his views differed from those of Dr. Baldy.) He had to leave that
to be judged from what Dr. Parish had said. In regard to treat-
ment, he must again dissent from the views expressed. He
thought that an absolute rule could be laid down. Where pus
was found in the pelvis, early or late, the proper procedure was
to open the abdominal cavity and remove the seat of the disease
where it was possible; and where it was not possible to remove,
proper drainage should be established. However, it would be
found comparatively evident that the disease could not be taken
out by a bold operator.

Dr. Joseph Price thought that he understood Dr. Parish. He
himself had said repeatedly that we might have an abscess in
any part of the body, from the scalp to the matrix of the nails,
we may have it in the cellular tissue of the pelvis as well as
in the axilla or neck, but he must hold to what he had said,
that in all the pelvic abscesses that he had seen he had not
found one not due primarily to tubal disease. Among the recent
papers on the subject, one calls attention to the treatment by
drainage through the vagina. He did not see how this will
avail much in bilateral accumulations. You may evacuate half
of the tube, but you have left a condition of affairs such as is
found in an old bubo. In pelvic abscess, we have just the con-
dition of affairs which the surgeon is asked to treat in the groin,
axilla, or popliteal space. In such a case he would remove the
disease by a clean enucleation and perfect a cure. He had not
seen a case of pelvic abscess which could not be removed in this
way and he should say that such cases did not exist. One gen-
tleman at Washington went so far as to say that after drainage
by vagina in a case of double pyo-salpinx, recovery had followed
and the woman had borne children. He might as well have said
she had conceived, notwithstanding her husband had previously been castrated.

Dr. M. Price remarked that it was a question whether you could say that the tube was diseased or not, by simply looking at it. He remembered a case a few weeks ago, where the tube was congested and inflamed. It seemed to be simply swollen, but on pressure there was forced from the fimbriated end a drop or two of as perfect gonorrhoeal pus as could be found anywhere. If he had not seen the discharge, he should have thought that there was no disease save congestion.

Dr. B. C. Hirst exhibited the following: 1st, An EXENCEPHALIC MONSTER, a rare form of monstrosity, sent him by Dr. Baker. 2d, An anencephalic monster, a more common form, given him by Dr. L. S. Clark. 3d, A fetus papyraceus, interesting in connection with an idea sometimes entertained that this is a proof of super-fetation. The present specimen was sent by Dr. Cleeman. It was evidently a case of twin pregnancy. One fetus, dying at about the eighth or ninth week, had been mashed flat by the other.

He also exhibited

A MODIFIED BRAUN'S CRANIOLAST.

The modification consists in adding to the instrument a pelvic curve, and also arranging it for axis-traction if so desired. In perforation of the head coming first, it is of advantage to use a dull perforator. Fasten a strong volsella forceps in the scalp, cut the scalp with Emmet's scissors, and then thrust the perforator through the skull. In perforation of the after-coming head, he had found, in a case seen last summer, that it was more convenient to go through the neck and through the pharynx. This simplifies the operation in some cases and makes it safer for the mother.

Dr. Joseph Price called attention to two instruments he had devised a few years ago for the same purpose. As we know, there is a large mortality following craniotomy, due principally to mutilations and contusions of the mother's soft parts. Some time ago while dealing with a number of these cases in greatly deformed women, the children being dead (and I may say that I have never destroyed but one living child), it occurred to me to have made an instrument through which we could work, one easy of application, a speculum to protect the maternal soft parts, and for fixation and compression of the head, an instrument which could be applied in pelves of one and one-half inches. I have tried the instrument which I now show, in all the deformed pelves at the University. You can crush heads with it, and again it serves as a perfect tractor. This other instrument you will all recognize. I have made the end of the handle of one blade sharp. Over this I place a piece of leather, introduce it and perforate the skull through the leather. This instrument is also a good tractor in case of after-coming head, it is also a good instrument to use in crushing the bones of the face. These two instruments are all that I have found necessary.
Dr. Parvin thought that an objection to the method proposed by Dr. Hirst is that the brain substance cannot be evacuated as readily by an opening through the neck as by one behind the ear. For instance, he had occasion last week to perforate the head in a head-last delivery, the child being dead. He made an opening behind the ear and then with ordinary forceps the head was compressed and the evacuation of its contents readily took place. It might be easier in some cases to perforate through the neck, but the removal of the skull contents will be much more difficult and imperfect.

Dr. J. Hoffman said that in perforation of the after-coming head, it was considered that by drawing on the body the head can be fixed and readily perforated.

Dr. Bernardy had some years ago found it impossible to perforate the skull posterior to the ear in a case he then had. He was able to draw down the inferior maxillary and perforate through the palate, and within a few minutes deliver a hydrocephalic child. He did not confine himself to any particular portion of the skull for perforation, but operated on the most accessible part. The moment the head is perforated, he breaks up the brain with the same instrument without withdrawing it, and then breaks up the skull with Thomas' or Meigs' forceps.

Dr. B. C. Hirst said it would theoretically seem that the opening posterior to the ear would be better than one through the neck, but in his case there was no trouble at all about the escape of brain matter. It would undoubtedly be better to perforate the skull directly, if this can be easily reached; but where this cannot be done, perforation of the skull through the neck will be less likely to injure the mother.

Dr. W. J. Taylor presented with the following remarks:

THREE UTERINE MYOMATA.

These three tumors were removed to-day from a case of considerable interest. The patient, a woman aet 30 years, was married on 7th last May. On the 20th, she had her last menstruation, and from that time considered herself pregnant. The abdomen began to swell, and she had a good deal of pain. A few days ago she sent for me and I found her with the abdomen much enlarged, and presenting the symptoms of pregnancy. On the right side, however, there was a hard mass, which puzzled me very much. She was seen by Drs. W. W. Keen and B. C. Hirst, and the conclusion was reached that an operation was necessary. To-day abdominal section was made. It was found that the uterus contained a fetus, and that there were three fibroid tumors: the largest was subperitoneal, the smallest was attached by a small pedicle, the second in size was also subperitoneal. These were removed, and the patient is at present doing well.

Dr. W. W. Keen said that Dr. Taylor had hardly done himself justice in his modest narration of the steps of the operation, and in his reference to the question of diagnosis. When I saw the patient last Monday, it was a question whether the large mass on the right side was a uterine myoma or a tubal pregnancy. It had grown rapidly and pari passu with the uterus. Two facts in
favor of its being a solid tumor were its density and the fact that
the pulsation of the aorta could be distinctly heard with the
stethoscope at every point over the tumor. Its rapid growth
seemed to be opposed to the idea of myoma. Dr. Hirst was of the
opinion that it was a tubal pregnancy, at the same time
recognizing an intra-uterine fetus also. She had albuminuria.
When Dr. Taylor opened the abdomen, two large tumors presented
which coalesced below, but were separated above. Passing the
hand into the abdomen, the left tube and ovary were found normal.
On the right side, it was at first not possible to recognize the
ovary and tube, but by enlarging the incision the hand was passed
down and the ovary and tube found. By the side of this
tube was a vein considerably larger than my thumb. The preg-
nant uterus was recognized as the large tumor, to the left. It
was soft, elastic, and dark in color. That to the right was recog-
nized as a neoplasm. While I lifted with difficulty the upper end
of the tumor, Dr. Taylor incised its capsule and enucleated it until
he came to the attachment to the uterus, which was over a space
of three or four inches in diameter, when the weight of the tumor
then caused the uterine tissue to tear, and the large sinuses began
to bleed very freely. I next grasped the pedicle with the thumbs
and forefingers of both hands, while he stripped off the sac. The
tumor was then quickly removed, and the uterine tissue and the
wall of the sac were seized with large hemostatics and the hem-
orrhage controlled. It was necessary at several points to intro-
duce sutures into the uterine wall itself, to control the bleeding.
The redundant portion of the sac of the tumor was cut away, and
the edges brought together with the continuous catgut suture.
A drainage tube was passed down into its cavity. In at least two
places, and possibly four, there were upon the uterine wall small
masses about half the size of my little finger-nail. These looked
like beginning malignant tumors. From the appearance and the
rapidity of the growth, I think that this may be a sarcomatous
tumor, though it is possibly a simple myoma.

Dr. Parvin thought that there was one point that even Dr.
Keen had omitted. He saw the operation, and the great mass of
the tumor was included between the layers of the right broad
ligament, so that the first incision was through the anterior layer
of the ligament. Finally, in removing a subperitoneal fibroid
from the posterior surface of the uterus, the pedicle partially
tore while the ligature was being applied, and there was free hem-
orrhage. He finally succeeded in stopping the bleeding by the
use of the continuous catgut suture, after other measures had
failed.

Dr. Hirst said that Dr. Keen had correctly expressed his views.
The symptoms pointed strongly to extra-uterine pregnancy. If
the case had been allowed to go on to term, Cesarean section
would have been required, as the tumor filled up the pelvis. He
had looked up this subject of injuries to the pregnant uterus and
had found some interesting cases. In one case, the woman was
thrown to the ground and jumped upon, when six months preg-
nant. The fetus was killed, but she went on to term. In another
case, trachelorrhaphy was performed during the second month of
pregnancy. This case went on to term. In another instance, a
number of leeches were applied to the cervix of a pregnant uterus
without any interruption to pregnancy. In a case I had last spring,
the woman was squeezed between a bale of goods and the wall, and
was seriously injured, but she went on to term. A German operator has such confidence in his ability to plunge a trocar into the uterus without doing harm that he advocates the occasional withdrawal by aspiration of the liquid in hydramnios, with very great distention of the uterus, allowing the child to go on to term.

Dr. Pauch said that the removal of ovarian tumors during pregnancy was recognized as a proper operation, but that the removal of uterine subperitoneal fibroid tumors during pregnancy was not regarded as a proper operation, except under certain special circumstances. The injuries necessarily inflicted on the uterus, in their removal, are liable to induce abortion. It would be interesting to have the further history of this case. The microscope alone could determine the character of this growth. Under ordinary circumstances, the rapidity of the growth would point to sarcoma, but it is well known that in pregnancy fibroid tumors occasionally take on a rapid growth. He supposed that Dr. Hirst did not refer to the cases he had cited as indicating rules of practice. It must be the urgency of the condition which justifies operations on the pregnant uterus. While pregnancy may go on after injuries to the uterus, there are numerous unreported cases where the opposite has been the result. Where a subperitoneal tumor can be lifted from the pelvis, pregnancy may go on.

Dr. J. Price thought that obstetrically the case was one of great importance. Some time ago he had called attention to three parallel cases. They all went to term with a pelvic tumor and died undelivered. The question of differential diagnosis scarcely concerned many operators at present: all that was required was the knowledge that there was a tumor present. We should never wait until the patient's general health has been impaired, as this is a departure from that generally followed in general surgery.

Dr. Hoffman had been recently consulted by a woman who stated that she was pregnant, and that at previous labors the baby "had to be mashed up." The pelvic cavity was found to be filled with a tumor; she was advised to undergo an operation for its removal. This she refused. It seemed to him that there could be no doubt of the propriety of immediate operation in cases like the one before him.

Dr. B. F. Baer believed that in this case, after the exploratory incision had been made and it was found that no extra-uterine pregnancy existed, it would have been better to have closed the incision than to have removed this deeply located, solid tumor; but since the removal was determined upon, he thought it would have been better to have amputated the uterus at the neck than to have permitted it to remain, with a great wound in its side and in the broad ligament. It is not likely that, after such a serious operation, the pregnancy will go on to term anyway, and abortion occurring within a short time after operation will certainly add to the risks of the patient. He asked if there were any subjective signs of pregnancy (extra-uterine) in this case, such as the peculiar pains, uterine hemorrhage, or discharge of decidua.

Dr. Keen thought that the removal of the uterus would have been a wholly unjustifiable procedure. It was possible that the woman might miscarry, but it was also possible that she would go to term. It has been shown that pregnancy is not necessarily a bar to operation. Not only would the sacrifice of the fetus have been unjustifiable, but hysterectomy would have made a young
married woman sterile. The added danger of a hysterectomy, too, might have turned the scale against the patient.

Dr. M. Price asked if Dr. Baer would expect to have uterine hemorrhage in a case of extra-uterine pregnancy, where there was also a fetus in the uterine cavity.

Dr. B. F. Baer said that he would expect in such a condition that, as the result of the extra-uterine irritation, abortion would take place, and then we would have both hemorrhage and decidua. In regard to the removal of the uterus in this case, it seemed that Dr. Keen condemned the procedure because of his anxiety to save the child. He, however, believed that the child would have had a better chance for its life if nothing had been done. But if operative measures were imperative, then he still held to his former opinion. In answer to still further questioning from Dr. M. Price, he said that he believed that hemorrhage may occur and the extra-uterine sac remain unruptured. He had seen a case which supported that view. The patient, after missing her menses for two months, was one day seized with severe pain in the right iliac region, which was followed by shock. She fell in her yard, and when her physician arrived, he found a condition of shock as well as hemorrhage. A few weeks after, she had a similar attack. He was then sent for and the diagnosis of extra-uterine pregnancy arrived at. This was five years ago, and Thomas' method of operating by the vagina and opening the sac with a hot knife was followed. The sac was found, with no evidence of rupture in it. The liquor amnii was clear, and no evidence of hemorrhage into the cyst, which there would have been had a rupture taken place. The fetus was indeed alive. The patient died on the fifth day after operation.

Dr. Wm. J. Taylor closed the discussion by saying that in this case the tumor was absolutely fixed. The woman's general condition was poor; the pulse 120; the patient unable to eat; she suffered intense pain and diarrhea for a number of days previously. The tumor was also growing rapidly. The urgency of the case seemed to call for some relief. There was albuminuria. If this woman had been allowed to go on to term—provided she had lived that long—the risks to both mother and child would have been greater than they were at the present time.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

October 19th, 1888.

The one hundred and tenth meeting of the Society was held at the residence of Dr. S. S. Adams, and was called to order by the President, Dr. S. C. Busey.

The following officers were elected for the current year: President—Joseph Taber Johnson, M.D.
Vice-Presidents—D. W. Prentiss, M. D.; W. W. Johnston, M. D.
Treasurer—George Byrd Harrison, M. D.
Recording Secretary—Samuel S. Adams, M. D.
Corresponding Secretary—George Wythe Cook, M. D.
Committee on Business—Charles E. Hagner, M. D.; Thomas E. McArdle, M. D.; and C. Wythe Cook, M. D. (ex officio).
Committee on Admissions—George N. Acker, M. D.; Henry D. Fry, M. D.; and George Woodruff Johnston, M. D.

The President appointed G. N. Acker, M. D.; George Byrd Harrison, M. D.; and George Woodruff Johnston, M. D., a Committee on Microscopy and Pathological Specimens.
The President read his annual address.¹

TRANSACTIONS OF THE GERMAN GYNECOLOGICAL SOCIETY.
BEING SECTION XVIII. OF THE SIXTY-FIRST ANNUAL MEETING OF GERMAN NATURALISTS AND PHYSICIANS.
HELD AT COLOGNE, SEPTEMBER 17TH TO 23RD, 1888.

(Translated from the Centralblatt für Gynäkologie.)

Meeting, September 15th.

President, Prof. Freund (Strassburg).

Meinert (Dresden) read a paper on
PERINEORRAPHY ACCORDING TO LAWSON TAIT.

He thought he was able to contribute something towards the understanding of the procedure, which has not been sufficiently elucidated even by Saenger’s detailed description. He knew of four methods, differing considerably from each other, according to which Tait operated at various times on old perineal lacerations. The first is that related by Zweifel, the second the speaker witnessed in Birmingham in the year 1885, the third is found in Tait’s text-book (“Diseases of Women,” Birmingham, 1886), and the fourth was brought back by Heiberg. Each of these methods is based on the same fundamental idea: to separate the old cicatrix, to draw the wound apart in such a way as to make it assume approximately the shape it had immediately after the laceration of the perineum, and then to unite what belongs together. The sutures are inserted so as to make them counteract at the same

¹See original articles in this number.
time any faulty retraction of the wound surfaces. The speaker illustrated the different methods on the manikin. Tait’s original incision, which followed the cicatricial thickening, and had a U shape in complete lacerations, changed gradually into the U form described by Heiberg and Saenger, or (in complete ruptures) into the H shape. For the silver wire formerly used by him, Tait has recently substituted silk-worm gut. He never carries the needle (as Saenger states) under the entire wound surface, but lets the needle emerge before reaching the mid-line and re-inserts it at a corresponding point beyond it. In order to grasp as much tissue as possible without danger of injuring the intestines, the point of the needle must be controlled by one or two fingers kept in the rectum. In the speaker’s first operation, in which the needle was carried too close beneath the wound surface, healing by first intention did not occur, but was secured in the remaining twenty-three cases (among which was one done according to Heiberg-Saenger). Lacerations extending deep into the thin portion of the septum are not suitable to the latest modification (Heiberg-Saenger). The suture is too difficult, does not offer sufficient guarantee for primary adhesion because the wound surfaces embraced are too extensive, and the new-formed perineum would reach abnormally far into the vagina. The speaker was obliged in such a case to combine Tait’s perineal suture with button sutures which in the lamellous portion of the septum united vaginal mucosa with vaginal mucosa, and rectal mucosa with rectal mucosa.

FRANK (Cologne).—Operations based upon splitting of the recto-vaginal septum are nothing new in Cologne. These operations I have done already in the year 1881, and have presented cases that were operated upon before the Medical Society.

Usually I have divided the septum in cases of prolapse and then detached the entire vagina from the rectum as far as the vaginal vault. Dr. Firnig will read a paper on these operations. The septum was divided, not in order to form a flap, but to make the vagina firmly adherent to its entire surroundings.

As to the division of the recto-vaginal septum in perineal lacerations, Frank could not grant any great importance to this so-called Tait’s method. In cases of slight perineal lacerations it is quite serviceable. The vaginal wall which is drawn towards the perineum is dissected from the underlying structures, and the wound thus made is united behind it. In doing this, nobody who is accustomed to operate on these parts will worry whether he shall carry the needle one way or the other. He will simply stitch the slight wound in such a manner that it will unite.

For deep perineal laceration which extend far into the vagina to the right or left of the rugous column, where the recto-vaginal septum is full of scars, Lawson Tait’s method is entirely inappropriate because the flap is liable to slough, not because it has been made too thin, but because just at the introitus vaginae it can often not be made thicker. In such cases the operations proposed by German surgeons, especially that of Prof. Freund, are much to be preferred. The way in which the laceration has originated
must be retraced. By dissection the vagina must be freed from its false support and brought into the right position; only morbid cicatricial tissue must be excised and only healthy tissue united in its former location.

Schmidt (Cologne) has operated seven times. He likewise prefers to sew with the ordinary curved needle which he inserts right in the margin of the wound, and then uses superficial intermediate sutures. In this way he has obtained healing by first intention in every case.

Meinert (Dresden), in closing the discussion, summed up briefly the result of his experience, and recommended the operation most warmly.

Freund (Strassburg), after the close of the debate, desired to add that the operation seemed to him suitable for only a portion of perineal lacerations. Good results could be obtained with it only in moderate degrees of injury in which the operation is performed more for cosmetic reasons. In cases in which the laceration extends beyond the introitus into the main muscular structures of the vagina, this operation alone will not suffice; under such circumstances it would materially alter the natural infolding of the vagina; though it will contract the lumen, it will give the transverse section an entirely different shape, for which reason relaceration in subsequent labors appeared to him almost unavoidable. The sole rational rule for larger defects of the perineum is to freshen according to the well-known method named after himself, and to unite the surfaces.

Meinert (Dresden) read a paper on

A RELIABLE CATGUT SUTURE ADAPTED TO EMMET'S OPERATION FOR CERVICAL LACERATIONS.

In place of the suture material generally employed by operators (silver wire, silk), the speaker uses catgut. He begins by placing all the sutures as Emmet has directed, but further assures the union of the freshened lips by a plate suture applied to each side. The catgut thread joining each pair of plates, which is carried in an antero-posterior direction through the entire thickness of the cervix, is fastened by a perforated shot as it emerges at the central opening of the leaden plate (about one centimetre in diameter). The advantage of an absorbable suture for cervical lacerations with their tendency to parametral inflammations is obvious, especially in the cases where it is most indicated, in which Emmet's operation must often be combined with colpo-perineorrhaphy. The plate suture offers at the same time an effectual barrier against after-hemorrhages, and is of use also in the not uncommon cases of longitudinal fissure of the cervical canal in which freshening is feasible, but not (at least not without preceding discision) the application of a button suture. It is essential that the plates are not drawn too taut lest they embed themselves in the edematously swelling surfaces of the cervix and call for artificial removal. The speaker has operated according to his method in twenty-five cases, in all of which he obtained union by first intention, even in the last two cases in which, in order to shorten the operation,
he deviated from the typical suturing of Emmet and inserting only a few guiding sutures (Situationsnähte) into the external wound margins, and for the rest trusted to the adapting power of of the plates.

KRUKENBERG (Bonn) read a paper on

THE PERMEABILITY OF THE FETAL MEMBRANES.

Recently, Duehrssen has asserted that the membranes in man are altogether impermeable, and that the permeability of the membranes in animals could be deduced only from experiments in which the fetus had been previously killed. Krukenberg demonstrates that the objections raised against the experiments on animals are not tenable in the case of the living fetus, and therefore adheres to the assertion which heretofore has been based on experiments made on living fetuses, namely, that the permeability of the membranes differs much in various animals and ensues usually only towards the end of pregnancy. As to the human species, Duehrssen has denied the permeability of the membranes because benzoic acid could never be traced in the liquor amnii. Krukenberg admits only that, being demonstrable with difficulty, it had transuded in inappreciable quantity. The benzoic acid contents of the liquor amnii may still be as large as those of the maternal blood one and a half hour after the exhibition of the benzoic acid; for there this drug can then no longer be demonstrated, although its excretion by the urine continues as long as twenty hours.

Meeting, September 19th.

President, RHEINSTAEDTER (Cologne).

A. SCHUECKING (Pyrmont) read a paper on

THE VAGINAL LIGATURE OF THE UTERUS AND ITS EMPLOYMENT IN RETROVERSION AND PROLAPSUS UTERI.

Several years ago, when I was busy at the task of devising a non-dangerous and certain method of bringing the retroflexed and prolapsed uterus permanently into the normal position without means of support, two ways offered to me which seemed liable to lead to this result. In the first place, there was the possibility to carry a ligature from the uterine cavity to the abdominal walls. Such a procedure, however, involved the danger of injury to the intestine and subsequent volvulus, and again it was not possible to exclude infection with certainty in this way. Moreover, owing to the distance of the fundus uteri from the abdominal walls with the resulting strain, no permanent effect could have been expected from an operation which would produce only an adhesion of slight extent. For these reasons, the object in view could be attained only by the insertion of a suture which
would fasten the fundus uteri anteriorly and laterally to the vaginal wall, and lead to an adhesion of the uterine peritoneum to the lowest part of the vesico-uterine fold or that portion of the peritoneum situated laterally to this fold. This procedure at the same time permitted a fixation of the uterus in the most acute-angled anteflexed position. This latter factor is of the greatest importance. Fixation of the uterus to the abdominal wall will only be followed by an antversion and anteposition of the previously retroflexed organ. It is obvious that this condition is more liable to favor the occurrence of a retroflexion in case the cicatrix stretches than when the organ has been for some time in acute anteflexion and its anterior wall has been adherent to the anterior pelvic wall by a cicatrix of greater extent. But several objections presented themselves to a ligature from the fundus uteri towards the antero-lateral part of the vagina. Was it permissible and free from danger to perforate the uterus with a stout needle, observing all precautionary measures? Given a sufficiently disinfected genital canal, and the needle projecting from an instrument like the one here demonstrated, this question could be answered in the affirmative, without hesitation. Numberless times has the uterus been perforated with dull, and without doubt not rarely dirty instruments, where the genital canal had not been cleansed; and even in these cases, in which the conditions for infection were as favorable as could be imagined, serious sequels have not been experienced, to my knowledge. Another objection was suggested by the necessity for avoiding the bladder in placing the ligature. But this objection likewise is to be set aside, for in placing the ligature the bladder can be forcibly crowded to one side with a sound; however, if the needle in spite of all precautions pierce the bladder-wall, this is of small importance according to my experience, since the minute needle puncture closes immediately after removal of the thread. At least the three cases in which I had included the bladder wall passed as favorably as the twelve others. Injury to the intestines can be absolutely excluded, since the ligature traverses the place occupied immediately before by the bladder. But where the adhesions were firm, I did not perform the operation. Finally it seemed to me difficult to construct an instrument whose needle could be given that backward movement to enable it to emerge again at the anterior vaginal wall after perforating the fundus. If the non-prolapsed or deeply descended uterus is drawn ever so far down, the fundus, especially if the organ is enlarged, still stands rather high over that part of the descending pubic ramus beneath which the needle is carried. Of course, this relation will be all the more unfavorable with a greater degree of acuteness of the angle of the pubic arch in the case in question. Another demand made of the instrument was, that the point of the needle during its passage through the uterine cavity should remain con-
sealed, since otherwise it would scarcely have been feasible to make the needle reach the fundus without some preparation, especially in virgins. For the latter reason, as well as because it was advisable to keep the points of perforation small, the instrument had to be constructed as lightly as possible, and yet strong enough.

Using an instrument constructed on these principles by Loewy, of Berlin, the manipulation required was as follows: First, the genital canal was thoroughly disinfected. In order to secure this the more perfectly, I placed into the vagina for some hours previously a tampon saturated with three-per-cent carbolic solution, and carefully disinfected the endometrium by means of an aluminium sound with tincture of iodine, carbolic acid, or chloride of zinc. The healthy endometrium is usually free from schizomyctes, but in displacements we almost always observe pathological alterations in the uterine mucosa.

Of the twelve cases of retroflexion operated upon by me, I have placed the ligature in eight without anesthesia; in the three cases of prolapsus uteri I have always operated without anesthesia. While anesthesia may be entirely dispensed with in prolapsus, I would recommend it for the majority of cases of retroflexion. Drawing down the uterus may be very painful, especially when adhesions are present. The patient is in the ano-dorsal position. The urine having been evacuated and the lower blade of a Simon's speculum having been introduced into the vagina, a long Muzeux tenaculum forceps is placed into the anterior lip of the cervix, and the previously retroflexed uterus is brought into anteflexion with a stout uterine sound. Now the instrument, armed with a stout silk thread, boiled in five-per-cent carbolic solution, is introduced to the fundus, the needle being retracted. With the right hand, which holds both the Muzeux forceps and the needle holder, the uterus is drawn firmly downward, so that the os points to the left, the fundus somewhat to the right. With short lever movements we now endeavor to place the fundus uteri so that we can determine with the index finger of the left hand the spot where the point of the instrument is. It will be desirable now to let the assistant crowd the bladder to the left. With the thumb of the right hand the needle is slowly projected, during which act the instrument is slightly depressed, when the needle—not without employing some greater pressure—will generally appear below the index finger of the left hand. It is advisable to use the instrument with some care, lest it be bent by the employment of excessive force. In parous women, whose uterus is not enlarged and whose pubic arch is shallow, the manipulation as described succeeds readily, and still easier is this small operation in descensus uteri, as well as in prolapse of the organ. The ligature is now grasped with a bent hook, drawn out a short distance, and cut from the needle. The instrument is then removed by the same way by
which it has been introduced, and the two ends of the ligature are firmly tied with a surgical knot and cut off, but not too short. Finally a bacillum of iodoform is placed in the bladder, another in the vagina, and the manipulation is finished. As a precaution I have always placed an ice bladder for twenty-four hours on the lower part of the abdomen, and in order to lessen the tension of the ligature, flexed the thighs at the hip. After three days the patients were allowed to sit up in bed, and were permitted to walk about from the fifth to the sixth day. Until the ligature was removed, an iodoform bacillum was inserted every two or three days into the vagina. There was no fever in any of my cases, only now and then slight pains were complained of. The most constant symptom in the twelve cases of retroflexion was bladder trouble; on the other hand, in all cases of prolapsus of the organ, the former bladder symptoms had disappeared after the operation. If we bear in mind the topographical relations of the uterus and bladder, and consider particularly that in retroflexion of the uterus the bladder was completely freed from the pressure of the uterus, we shall not be surprised at such disturbances immediately after producing an acute-angled anteflexion. In one case, incontinence of urine occurred for one day after operation; in another case, the patient had to be catheterized for two days; in four cases, the patients had to be catheterized once after the operation; in the remaining nine cases no catheterization was necessary after operation. As I have stated above, in three cases a few drops of blood had escaped into the bladder—a sign that the bladder had not been sufficiently crowded aside and had been included in the ligature; but this circumstance was not followed by any untoward consequences. In every one of the fifteen cases the bladder symptoms disappeared entirely after removal of the ligature.

In the first case of retroflexion, the ligatures were removed after six days; in the remaining cases, between the ninth and fourteenth days; in the three cases of prolapsus, after three weeks. In all the cases, the ligature had cut into the anterior cervical and the vaginal wall, but the portion lying behind the ligature had again united. It may be assumed that, in the same way as at the os and the vaginal wall, the ligature also slowly cuts into the fundus uteri while the cut tissue behind it again unites. This linear quality of the cicatrix furnishes the explanation why the adhesion between the anterior wall of the body of the uterus and the opposite portion of the peritoneum becomes so very intimate, although only a single ligature is inserted. From my own observations I am inclined to assume that this adhesion extends from the height of the fundus to the anterior reduplication of the peritoneum or, say, about to the region of the internal os.

The result obtained with my method was as follows: Excepting the first case of retroflexion, which should be excluded, because I
removed the ligature too early, I secured in all cases of retroflexion a complete cure, i.e., a pronounced anteflexion; and in the cases of prolapsus I attained an equally perfect restoration. In two cases of retroflexion, adhesions were present, but the uterus was still fairly movable; about the second case of total prolapse of eighteen years' standing I have had news a few days ago by the attending physician, Dr. Heilmann, of Melle. The operation was performed on July 16th; and on September 14th, or two months later, the doctor reports that after bimanual examination he could detect no change in the favorable result.

With the removal of the retroflexion, the symptoms due to this anomaly, such as pressure in the pelvis, sacralgia and headache, dysmenorrhea and menorrhagia, likewise disappeared. Endometritis and metritis of the organ usually also showed a distinctly favorable influence from the correction of the faulty position. Thus in three cases the treatment caused an immediate cessation of the pre-existing leucorrhea. I may add that after removal of the ligature the acute-angled anteflexion disappears at once, and the uterus is found in normal position, slightly anteflexed. So-called anteflexion troubles I have not observed in any of my cases after removal of the ligature. I hope that by this report I have done justice to the most essential points according to which my procedure can be judged. I believe that hardly a single plausible objection can be advanced against the vaginal ligature of the uterus which I have not entertained myself before deciding on the treatment above described. My experience, as well as the reports of others (the Chief of the City Hospital at Danzig, Dr. Baum, informed me recently that he had employed the method with good effect, so far as he could judge, and intended to use it in a number of appropriate cases), permit me to conclude that my method in all cases of retroflexion which are not immovable, and of prolapsus uteri, as well as in many cases of adherent retroflexion, may be called a simple, not dangerous, and reliable mode of treatment.

Rheinstaedter (Cologne) could not understand how the peritoneal surfaces, which by Schuecking's operation are simply placed flat on each other, should unite. Healthy serous surfaces as a rule fail to do so.

Schmidt (Cologne) has operated in the following way for retroflexion which could not be overcome in any other manner. He freed the anterior uterine wall by dissection, excised a wedge-shaped piece (the point directed toward the cervical canal) from it, and brought the surfaces together so as to draw the uterus forward and produce anteflexion.

Frank (Cologne).—Gynecologists are at present actively engaged with the operative treatment of retroversion and retroflexion; I, too, have occupied myself for several years with this question and have come to the conviction that we must not be too sanguine in our appreciation of this operation; for the cases in which operative treatment is really indicated will, on closer ex-
amination, be reduced to a comparatively small number. This is because in many cases the troubles are due: first, less to the retroverted uterus than to diseases of the adnexa which must be treated; second, it takes two for the operation—one who does it and one who submits to it; third, a uterus which has been firmly adherent for a long time can never be detached by stretching or kneading and be fastened in front by operation as Schuecking has just described: laparatomy must be performed, the firm adhesions forcibly separated, and the raw surfaces be covered with normal peritoneum, otherwise the uterus will again become adherent in the same way as in syndactylus two fingers would again unite if we were to rest content with separating them and then holding them forcibly apart; fourth, a suitable pessary, if the patient comports herself properly, does much good, for it is essential that the uterus be kept for a long time in the normal position. Hence there remain only those cases in which a pessary cannot retain the uterus, owing to the absence or defective development of the cervix. In such cases Schuecking's operation may be of service, although it must be confessed that one experiences a feeling of uncertainty with this procedure because we cannot exclude the possibility of evil consequences from the needle in the hands of an inexperienced operator.

I do not believe it to be correct to attack the body of the uterus; as long as three years ago I excised a wedge-shaped piece in the manner described just now by Dr. Schmidt, and the result was bad in those cases where I failed to insert a pessary after operation. We may succeed in overcoming a posterior angle of flexion, but can never get the entire uterus forward into a normal position by it. In my opinion, the uterus must be attacked at its points of fixation. As I have stated on another occasion, in similar cases of replaceable retroflexion I have enucleated the anterior surface of the uterus as far as the fundus, and by means of buried catgut ligatures I have made an upward fold into the peritoneum investing the vesico-uterine excavation and thus brought the uterus back to its normal position without removing anything from the uterus itself; although I must confess that I have not been entirely satisfied with the results of even this procedure. Of what use Schuecking's operation is to be in cases of prolapsus, especially if of greater extent and associated with cystocele and enterocele, is utterly incomprehensible to me. The uterus will be as little able to hold itself up by means of the bladder as a drowning person could keep himself above water by means of a small piece of wood without support of its own. Still I am willing to admit that what I do not understand is possible, for all that.

Freund, Sr. (Strassburg), has operated by endeavoring to get with a strong curved needle from the vagina around the spinosacral ligament in order to hang up the uterus, as it were, on these ligaments. However, the ligatures always cut through, and between them the vaginal wall crowded out in thick folds.

In many cases of prolapsus, every method proves unavailing because the entire peritoneum up to the diaphragm is displaced downward, with simultaneous descent of the liver, kidneys, etc. In such cases, especially if recent, the effect of massage can be understood. In the treatment of prolapsus, Freund assigns a particular value to keeping the uterus at first, for at least several weeks, in position, its posterior surface exposed to the pressure of the intestines resting upon it; by continued rest in bed, care
Review.

109

as to ample evacuation of the bowels, massage, insertion of a suitable pessary, and possible fixation of the cervix to the posterior vaginal vault by a ligature, the great edema of the organ usually disappears rapidly.

Schuecking, in reply to an objection raised by Linkenheld (Elberfeld) remarked that injury to the bladder may indeed be almost certainly avoided. Injury to a knuckle of intestine was possible, but manifests itself quickly and is not followed by evil consequences if the ligatures be then removed.

(To be continued.)

REVIEW.

Contribution a L'Etude de la Pelvi-Peritonite, son Traite-
ment par la Dilatation Forcee et le Curettage de L'Ute-
rus.—Contribution to the Study of Pelvic Peritonitis and
its Treatment by Forcible Dilatation and Curetting of

This memoir is a laborious treatise setting forth the advantages of forcible dilatation and curetting of the uterus over Tait's operation for pelvic peritonitis. After a few introductory remarks, which would lead one to suppose that his previous works had called forth adverse criticism and appeal for justice to this, "a book written in good faith," the author passes in review the diverse opinions held at different epochs regarding peri-uterine inflammations. His own experience and a careful study of the recorded observations of Bernutz, Heitzman, Melch, Coe, and others, lead him to believe with Polk that—setting aside those who succumb to septicemia—pelvic cellulitis is rarely found except as a consequence of a primary pelvic peritonitis. When peritonitis is found around the Fallopian extremities, the evidence of inflammation diminishes with the distance from the oviducts, while there seldom is peri-uterine cellulitis. When found, it is limited to subperitoneal connective tissue, and diminishes as the uterus is approached. This is evidence to the author's mind that the majority of pelvic inflammations have for starting point endo-
metritis. It is of little import whether propagation is by continu-
ity or through the lymphatics. The source of infection is always the uterine cavity. The deduction is inevitable: combat first of all the endometritis, which is best done by dilatation and curetting.

The different methods of dilating the uterus the author divides into bloody dilatation, which includes the different modes of inci-
sion, and bloodless dilatation, which he subdivides into gradual dilatation, by means of hygrometric substances, sponge tents, laminaria, etc., and rapid dilatation; by graduated sounds, such as Simpson's, Peaslee's, Hanks', Fritsch's, Macintosh's, Hegar's, etc., or by dilators with diverging blades constructed on the prin-
ciple of the glove-stretcher. The author rejects gradual dilatation because it is slow, requires many seances, and multiplies propor-
tionately the dangers of intervention, and on account of the possi-
bility of septicemia following the use of the tent, especially the
sponge-tent. To avoid this danger, Lawson Tait soaks them in oil of cloves, Aveling employs a solution of permanganate of potassium, Doleris and Herff use a solution of iodoform in ether, and others use a solution of carbolic acid. But, according to Mündé, none of these preventive agents is a guarantee against infection.

Walton's rather complicated method of procedure is as follows:

The evening preceding the operation the woman is given a purge, followed next day by an enema and a bath with free use of soap. Before being put upon the table, she is given a rectal injection of chloral and laudanum. If the patient is anesthetized, she is placed on her back with legs held flexed by assistants. In this case Roth's speculum is used. If the woman be not anesthetized, she is put in Sims' position and Thomas' self-retaining speculum is employed. The urine is drawn. The vulva, pubes, buttocks, and thighs are scrupulously washed and disinfected with five-per-cent solution carbolic acid. The vagina irrigated with bichloride or carbolic acid solution. The speculum, having been allowed to stand for some time in a five-per-cent solution of carbolic acid, is now introduced, and the culs-de-sac and vaginal walls carefully swabbed out with a sponge soaked in the same solution. The first dilator, Priestley's, is smeared with carbolized, as are all the others, and introduced into the uterine cavity, which can be easily done, even if there be flexion. The second dilator employed is Pajot's. The third that of Ellinger. The fourth Sims' trivale; this usually causes the flow of a few drops of blood, which is carefully washed away with a carbolized sponge before the introduction of the last, Schultz's dilator. Having now accomplished dilatation, curretting is immediately commenced, taking particular pains to reach the superior angles and to clear away any obstructions that exist at the opening of the tubes. Having finished the curetting, an intra-uterine injection of hot five-per-cent solution of carbolic acid is given by means of a Bozeman's sound and a Higginson's irrigator, followed by an intra-uterine injection of tinct. of iodine or a large wad of cotton saturated with tinct. of iodine is placed within the cavity of the uterus, and finally the vagina packed with iodoform gauze or cotton saturated with iodoform and glycerin, and the patient given a subcutaneous injection of morphine. The after-treatment consists of daily intra-uterine irrigations of carbolized water, applications of tincture of iodine for the first two days, hot vaginal douches, and tamponing.

The author does not hesitate to operate on cases with existing parametritis, but rather considers the operation of decided advantage.

The advantages of this procedure are summed up as follows:

1st. Pain, which is the dominant element in non-exudative pelvic peritonitis, is immediately suppressed.

2nd. In the exudative variety, peri-uterine tumefaction is arrested by assisting return circulation, and resorption facilitated.

3rd. The contents of peri-uterine or pelvic abscesses may be evacuated through the uterine canal.

4th. The symptoms of puerperal septicemia promptly disappear. By no other method can the cavity of the uterus be so effectually disinfected.

5th. Vomiting and other reflex symptoms almost immediately vanish.

It is extremely improbable that Walton's method will be accepted by American gynecologists, and we would unhesitatingly
condemn it. Fatal pelvic peritonitis is occasionally induced by the slightest traumatism, such as that caused by vaginal examination or douche, applications to the cervix, or the passage of a uterine sound. In view of such clinical facts, one naturally hesitates, when there is existing peritonitis or cellulitis, to make traction, for the purpose of fixation, to say nothing of such a complicated process of dilatation and curetting as that which Walton advises, and which we must consider decidedly dangerous, even when done with all antiseptic precautions.

Hugh Hagan.

ABSTRACTS.

1. Max Strauch: Castration for Functional Perversion of Ovaries due to Rudimentary Development of Mueller's Ducts (Zeitsch. f. Geb. und Gyn., XV., 1, 1888).—S. describes two cases of castration for dysmenorrhea due to imperfect development of Müller's ducts. One case terminated in cure. The other was seized after the operation with a neurosis of the stomach, and was gradually getting weaker at the time of the writing of the article.

W. L. B.

2. K. Abel: On the Behavior of the Mucous Membrane of the Corpus Uteri in Carcinoma of the Neck (Arch. f. Gyn., XXXII., 2).—An account is given of the examination with the microscope of seven uteri removed by Dr. Landau for carcinoma of the neck. Contrary to investigations made by others, he had been able to establish the fact that in six cases the uterine mucous membrane was most extensively transformed, while that of the cervix was comparatively free from disease. This change, in three cases, consisted of sarcomatous degeneration, in one case of a high grade. In all, newly-formed spindle-cells could be seen toward the surface of the membrane, occasionally becoming larger and larger in the transition into large epithelioid cells. In that case in which the sarcomatous development had reached the highest stage, the sarcoma was of the round-cell variety; in the others, spindle-cells predominated. It is particularly remarkable that in the former case the disease of the portio was of recent date. Of the other four cases, a conspicuous development of spindle-cells was prominent in two, while all evidence of chronic inflammation was wanting. The resemblance of these changes to those observed in the first two cases was surprising, so that they could be regarded as those of the first stage in the development of sarcoma. In the remaining cases, the mucous membrane was inflamed, involving the glandular apparatus and interglandular tissue, without any sign of new formation. Of regards it as remarkable that, in carcinomatous disease of the portio, the uterine mucosa should be the seat of sarcomatous degeneration. There was no blending of the sarcomatous with the carcinomatous elements, as described by Virchow; both processes were separated by a layer of perfectly healthy tissue. Analogous to the diverse effects of tubercle bacilli when in the lungs and when in the skin, it could be readily imagined that the same agent produced in the portio carcinoma, and in the body of the uterus sarcoma. In view of the fact that the uterine mucous membrane was not found normal in seven cases of carcinoma of the neck, and that it was impossible to determine the anatomical limits of the diseased process, the author thought total extirpation of the uterus a justifiable operation in such cases.

L. K.
(Arch f. Gyn., XXXII., 2).—These operations were performed at the first obstetric-gynecological clinic of the Imperial Hungarian University at Budapest by Prof. Kézmírsky, Prof. Mann, and the author of the paper. The reporter gives in detail the methods pursued at this institution, the treatment of the patients before, during, and after the operation, the method of disinfecting the operating room, instruments, etc., used, and the technique of the operation itself. Irrigation of the abdominal cavity with subliminate solutions had been discarded, as mild symptoms of mercurialization had been noted in three cases, and it had been found that good union resulted without a rise of temperature in four cases in which the abdomen had been closed without irrigation. In all other respects, however, the strictest antiseptic precautions were observed. The use of silk for suturing the abdominal wound had proven unsatisfactory, the material often giving rise to suppuration, and silk-worm gut, previously kept in hot water, was now employed with beneficial effect upon the union. Of the cases mentioned, 3 contained dermoid cysts, 8 malignant growths (1 sarcoma, 3 carcinomata, and 4 cystomata with papillary proliferation); the mortality in cases with benign growths was 1 in 20; dermoid cysts, 1 in 3; malignant growths, 4 in 8; both ovaries were removed in 12 cases; the right one alone in 6, the left one in 16 cases; in 2 cases the operation had not been completed—in the one case because of the extensively malignant character of the growth, in the other because of the collapse and death of the patient during the operation. The latter patient was but fifteen years old, and the operation was done because of a chronic peritonitis that threatened to carry the patient off; a carcinomatous tumor as large as a man's head was removed. Puncture had been resorted to for purposes of diagnosis in three cases, but never after that; it was regarded as a dangerous and useless procedure. An instructive case was that of a married woman, aged 32, who had menstruated regularly since her fourteenth year; nullipara; for five years prior to operation had noticed her abdomen swelling, and thought at first that she was pregnant; during the last four weeks she had suffered severe pain and had febrile movements. From the careful examinations made, the diagnosis of extra-uterine pregnancy was arrived at; the elevated temperature, continued vomiting, and exhaustion of the patient were thought to be due to peritonitis and decomposition in the ovaries. During the operation the cyst occupying the cul-de-sac of Douglas was accidently incised, and a turbid, yellowish fluid containing much fat and stry bundles of hair escaped; at the bottom of the sac was found a bone, 7 cm. long by 4.5 cm. wide; it was this which had led to the error, as its conformation had given the impression that it was a fetal frontal bone; it was studded by thirteen teeth, and contained in one place a tuft of hair measuring about 1 cm in length, while single hairs were freely scattered over its surface. The bone was firmly adherent to the cyst-wall; in the endeavor to separate the cyst-wall from its attachments, the patient went into collapse and died. In another case, pregnancy at the fourth month was found to be associated with a cyst of the right side containing five quarts of fluid. The cyst and contents were removed with considerable hemorrhage, the uterus remained passive, the wound healed well, and the patient went to term and was delivered of a good-sized child. The author is inclined to the view that papillary proliferation in the ovaries is very likely of malignant character. L. R.
IRRIGATION OF THE PUERPERAL UTERUS: ITS USES AND DANGERS—WITH ESPECIAL REFERENCE TO THE TREATMENT OF PUERPERAL FEVER.

BY

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PUERPERAL FEVER IS SEPTIC FEVER.

When the surgeon prevents the access of germs to wounds, they heal without suppuration or fever, whether of skin or bone, large or small, dry or filled with blood-clots. When, on the contrary, certain germs gain access to wounds, when they become infected, the least accident which may occur is suppuration; or inflammation may appear and spread over contiguous tissues or along the absorbents (lymphangitis, phlebitis, thrombosis), or septicemia or pyemia may result.

When the denuded surface of the puerperal uterus, or wounds of the genital canal, become infected, a precisely similar series of septic accidents may occur: the raw surfaces may suppurate, inflammation may extend to the tubes and through them to the
peritonemn, or along the lymphatics and veins (pelvic lymphangitis, cellulitis, peritonitis, phlegmon, crural phlebitis), and finally the blood may become infected (septicemia) or metastatic abscesses may occur (pyemia).

The obstetrician, like the surgeon, must prevent septic accidents. He must, by a frequent use of the thermometer, gain an early knowledge of their approach, and when present must treat them by a precisely similar plan.

**Plan of Treatment of Puerperal Fever.**

What is the action of a surgeon when a rise of temperature tells him that the wound has become infected? He removes the dressings, seeks the seat of infection, and disinfects it by antiseptic solutions; he evacuates all collections of fluid; if necessary all the recesses of the wound are irrigated. In all cases of puerperal fever, likewise, the infected portion of the genital canal must, if possible, be thoroughly disinfected. To qualify and amplify this statement is the object of this paper. Deposits of pus must be evacuated; pus-tubes must either be evacuated or extirpated; suppurative peritonitis must be treated by laparotomy, irrigation, and drainage. It may as well be conceded that, aside from these measures, we are almost powerless in puerperal septicemia. Antipyretics are merely symptomatic measures. The danger lies not so much in the fever itself as in the cause of the fever.

As intra-uterine irrigation is of undoubted benefit in so many of these cases, we should, where there is any doubt as to the propriety of its employment, give the patient the benefit of the doubt, and irrigate. Do not hastily decide that a given case is one of pure septicemia, that the poison has acted on the blood mass and is beyond the reach of local measures. You may be able to remove or disinfect matter still remaining in the uterus, and thus prevent a fatal addition of septic material to the blood.

**Case I.—Septic Fever—Uterine Irrigation—Recovery.**—P., a primipara, aged 30, was delivered, in the absence of her physician, by one who was extremely dirty in his habits. Temperature and pulse gradually rose, and on the third day a severe chill occurred. Temperature 104°F, pulse 130. No mastitis or pelvic inflammation; lochia normal.

The uterus was carefully explored by the finger and emptied of a small quantity of decidual fragments and blood-clots. The
uterus was irrigated once daily for three days. Each irrigation was followed by a permanent decrease in temperature and pulse rate. Rapid and complete recovery.

**Case II.**—*Septic Fever with Metastatic Foci—Recovery.*—H., multipara. During the first stage an intoxicated neighbor, with very dirty hands, assiduously endeavored to aid dilatation of the os, and succeeded in producing a deep bilateral laceration. The physician arrived just as the child was born, and did not see the patient again until the third day. The temperature was 105° and it varied between 105° and 105.5° for three days. Then the range became lower by intermissions until the twenty-first day, when she became free from fever. Lochia normal. A minute examination showed nothing abnormal but the lacerated cervix. In the second week a large inflammatory nodule appeared on each forearm, and the metacarpo-phalangeal articulation of the right index became greatly inflamed and swollen. Septic pneumonia and pleuritis followed, but happily did not result in suppuration. By the end of the sixth week recovery was perfect. The breasts at this time began to secrete milk. So admirable was the constitution of the woman that nature was even able to restore the function of the ankylosed metacarpo-phalangeal articulation. (One year afterward Mrs. H. was delivered of her sixth child, and experienced no trouble.)

The treatment consisted of frequent vaginal injections of carbolized water; the uterus was irrigated with carbolized water three times, at intervals of twenty-four hours, after which it seemed perfectly clean. The intra-uterine douche was then discontinued, but vaginal injections were continued twice daily for fourteen days. During the period of high temperature several half-drachm doses of quinia were given, but without marked effect. Of course nutrition was carefully attended to.

**The Diagnosis of Puerperal Fever**

Only concerns us here as affording indications for treatment. It depends upon the thermometer. Practically, fever during the puerperium is septic, with the exception of that due to mastitis, and this also is sometimes septic or is complicated with septicemia. Whatever our theories may be, it is our duty to treat *fever from mental emotion, aseptic fever, puerperal malarial fever, milk fever* as if they were of septic origin. It is perhaps too soon to assert that these forms of disease have no existence, but to our minds it is a significant fact that antiseptic precautions prevent them.

"The most encouraging result of the antiseptic measures employed," says Lusk, describing his experience in the New

1 The histories used are from cases treated by our immediate associates or ourselves, excepting Cases V. and XV.
York Emergency Hospital, "has been the nearly uniform absence of even trivial temperature elevations."

**Indications for Irrigation.**

The temperature is taken morning and evening, by the nurse.

If any rise is noted, vaginal injections are used thrice daily (a gallon of hot water, followed by a pint of 1:4,000 sublimate solution, after which the patient is turned on the side, or more hot water is injected to prevent sublimate poisoning).

If the rise equals one degree or more, the patient is carefully watched and an evening visit is paid, especially if any other symptoms exist (chill, sweating, pelvic pain).

If the temperature reaches 101°, the uterus is irrigated and the vaginal injections are continued. If, after twenty-four hours, fever has not subsided somewhat, the uterus is again irrigated.

If the temperature does not reach 101°, but continues at about 100° for more than two days (notwithstanding vaginal irrigation), it is best to irrigate the uterus once thoroughly, unless the fever can be explained by a slight local inflammation originating in absorption from a denuded spot below the endometrium (as in lacerated cervix, etc.).

In acute pelvic or general peritoneal inflammation, the uterus is emptied and thoroughly irrigated once, and is afterward not disturbed unless a foul discharge is present.

If cases of puerperal fever have received timely treatment, and have not been grossly infected, from one to four uterine irrigations, given at intervals of twenty-four hours, will generally suffice. But if the disease is allowed to obtain a firm hold, or if gross infection has occurred, as evidenced by stinking discharge, or the appearance of diphtheritic membranes on the vagina or cervix, or by marked general symptoms, the whole utero-vaginal canal should be irrigated twice daily for a week, and perhaps every day or two for another week. Such cases will be almost unknown in the practice of careful men. Indeed, if antiseptic precautions are used, the necessity for uterine irrigation for sepsis will very rarely exist.

Why should we usually not irrigate more frequently than once daily? Because this little operation is sometimes followed by symptoms precisely similar to those of septic fever,
which symptoms sometimes persist for twenty-four or thirty-six hours. The danger is that we may be misled by these symptoms, and by too frequent repetition of the irrigation aggravate the patient’s condition and bring discredit upon ourselves.

III. EFFECTS SOMETIMES FOLLOWING INTRA-UTERINE IRRIGATION.

1. Pelvic or abdominal pain sometimes occurs during or after the operation. It may be due to retention of the fluid in the cavum of the sharply anteflexed womb, or to its passage through the tubes, or to perforation of the rotten walls of a diphtheritic uterus.

CASE III.—Uterine Contractions due to Retention of Fluid.

—A., typical septicemia, immediately after irrigation was seized with violent labor pains. They lasted for twenty-five minutes, and were entirely relieved by a gush of colorless water, smelling of carbolic. Quick recovery.

CASE IV.—Pelvic Peritonitis due to Passage of Fluid through the Tubes.—M., immediately after the womb had been emptied of the placenta of a three-months fetus, received an intra-uterine injection with a single tube and ordinary bulb syringe. While the fluid was flowing she complained of moderate pain in the region of the broad ligaments, and the pulse became rapid. Within two hours fever was noted and the pelvic roof showed the typical “parchment induration” of pelvic peritonitis. After a month of severe illness, perfect recovery ensued. The uterus was not irrigated a second time.

CASE V.—Septicemia of a mild type following Abortion at five months—Passage of Fluid through the Tubes.1—The reporter was fearful that some of the placenta had been retained. On the morning of the second day, temperature 100°; pain in the hypogastrium; utero-vaginal irrigation with carbolic solution; after ten hours, temperature 102°. C. “again began the use of the syringe with due caution, but had not compressed the bulb more than half a dozen times when his patient uttered a shriek, turned deadly pale, and sank upon her pillow in an almost lifeless condition. Pulse very weak. She complained of so much pain in her womb that he gave her a hypodermic of morphia.” Next day the morning temperature was 104°, the evening temperature 105°. Uterine injections were resumed and continued without ill effect until the third week. Pyemia. Death on seventieth day.

CASE VI.—Unintentional Intra-uterine Irrigation—Pelvic Peritonitis.—A woman whose uterus was prolapsed, so that the widely gaping os extended just beyond the introitus, received, as

1 Chastain: Kansas City Medical Index, Dec., 1887, p. 505.
she supposed, a vaginal injection with a bulb syringe after a miscarriage. It was given by the husband, an awkward fellow, and a great deal of force was used. After one or two compressions of the bulb she screamed from intense pain, began to vomit and purge, and became collapsed. Large hypodermic injections of morphia and atropia were required for four days, during which she remained in an apparently dying condition, one very much resembling the cold stage of cholera. A few hours after the injection the uterus was found to be firmly cemented in its prolated position by peritoneal exudation. Recovery after prolonged and dangerous illness.

Case VII.—Probable Rupture of a Diphtheritic Uterus during Injection.—X., primipara. Fever, headache, and a dusky hue of the skin were noted before confinement. Dr. I. arrived immediately after the birth of the child, and removed a partially adherent placenta. The uterus was very inert; fever, rapid pulse, and marked anxiety were noted. In twelve hours the pulse was 180, intermittent, and flickering. Digitalis, carb. ammon., and turpentine were prescribed. In twenty-four hours, temperature 102°, pulse 120. The uterus was thoroughly explored and nothing found but some horribly offensive, brownish, granular matter and a large quantity of serous liquid, which were thoroughly washed out. Similar material continued to flow in large quantities from the vagina until death.

After thirty-six hours, temperature 103°, pulse 124. Vagina lined with thick, putrefying, diphtheritic membrane. Though carbolized vaginal injections had been used every two hours, and three uterine injections had been given, the gangrenous odor was almost intolerable. A long single tube was now inserted to the fundus, and while fluid was being forced with decided pressure, by means of a bulb syringe, the patient screamed "I am killed!" and complained of intolerable pain near the umbilicus. She soon sank into collapse, and expired in seven hours.

2. Tinnitus aurium is noted in about twenty per cent of patients while undergoing uterine irrigation, where a single tube is used. It often occasions great alarm. The sensation is probably due to reflex disturbance of the cerebral circulation. It is often noticed during the passage of the uterine sound or during ordinary intra-uterine applications; also before ordinary syncope and during the administration of nitrous oxide, when it is immediately followed by loss of consciousness. Should the irrigation be continued after the appearance of this symptom, the patient is apt to faint.

3. Syncope, with or without slight convulsions, occurs in about five per cent of cases in which a single tube is used. It is succeeded by alarming prostration which may last several hours.
CASE VIII.—H., primipara. Severe septicemia, with pelvic peritonitis; uterus inert and large, discharge stinking. While receiving an intra-uterine injection through a single tube with a bulb syringe, she was greatly alarmed by tinnitus. No attention was paid to her complaints, and she shortly became convulsed, and lost consciousness. She soon recovered consciousness, but remained in a semi-collapsed condition for several hours. On a subsequent occasion, injection was discontinued as soon as tinnitus was noticed, and fainting did not occur. Recovery after a prolonged illness; ankylosis of hip-joint from septic arthritis.

CASE IX.—A woman, not a puerpera, who was undergoing spontaneous cure by sloughing of a large mural fibroid, had a very terrifying attack of syncope while receiving an intra-uterine injection, given in the same unscientific way. Perfect recovery. The case was reported in the American Journal of Obstetrics by one of us.

CASE X.—Reflex Symptoms attending Injection of an Abscess of the Thyroid Gland.—Immediately after receiving an injection of fluid extract ergot into the substance of a solid goitre, the patient vomited, purged, and almost fainted. An abscess now formed and was opened by a small incision in the median line. Frequent attempts were made to irrigate with a bulb syringe the abscess cavity, which was insufficiently drained. As soon as any of the injected fluid had accumulated in the cavity, the following symptoms were noticed: tinnitus aurium, faintness, extreme pallor, vomiting, purging, severe chill, high fever (100°-104°) lasting sometimes three days, copious perspiration.

As irrigation of the immense cavity was indispensable, the difficulty was finally overcome by so holding apart the lips of the incision with a probe as to allow the fluid free exit. From this time recovery was rapid.

4. Chills of great duration and severity are very common after irrigation improperly performed, occurring in about one-fourth of such cases. They sometimes last half an hour, and are generally attended or succeeded by great rise of temperature (103°-5°). These symptoms are often mistaken for those of septicemia, and the injections are given more frequently and violently, when on the contrary they should be given more cautiously and less frequently, or be discontinued. Quinia has no effect in preventing these chills.

CASE XI.—X., tedious labor terminated by forceps; inertia. Twelve hours after delivery of child, temperature 101°, pulse 115. Twenty-four hours, temperature 102°, pulse 120; uterine irrigation followed in half an hour by a severe chill. Thirty-six hours, temperature 102.5°, pulse 124; irrigation was followed in twenty minutes by chill. Forty-eight hours, temperature 101°, pulse 115; irrigation; chill in half an hour.
The temperature and pulse ranged from 100° to 102° and 100 to 120 for four days, but no more injections were given and no more chills occurred. Rapid recovery.

Case XII.—Chills caused by Irrigation mistaken for Puerperal Malarial Fever.—In November, 1886, Dr. F. consulted one of us concerning a case under his care. A young woman had had an abortion, and the doctor, after removing the placenta, irrigated the uterus. Shortly afterward a severe chill occurred, followed by fever and profuse perspiration. Attributing the chill to malaria, then the fashionable disease, Dr. F. ordered large doses of quinia, and, as he was anxious about the case, made a point of visiting the patient just after the morning office hour and administered a uterine irrigation. Thus it happened that the patient had a chill at the same hour for five days in succession. At our suggestion, all treatment was discontinued, and recovery was immediate.

Case XIII.—Chills after Vaginal Injections.—Primipara. Examined during first stage by two physicians, with unwashed hands. Both were attending suppurating wounds. Before labor was terminated she had slight fever. Vaginal douches were ordered and given for nine days; fountain syringe used. Fifth day: during and for four hours after injection, moderate pain in back and left broad ligament. One hour after injection, severe chill lasting fifteen minutes. Before injection temperature was nearly normal; ten hours after it was 102°, and twenty-two hours after 101°. It then became normal and remained so until the ninth day, when a vaginal douche was followed by the same symptoms. After fourteen hours fever disappeared, and there was no subsequent trouble. As a careful examination detected nothing to account for the symptoms, they were believed to be reflex.

5. Fever without chill is sometimes noticed as a result of uterine irrigation.

Case XIV.—Diphtheritic Endometritis and Vaginitis.—S., a primipara, was one of six patients attended by Dr. S., who suffered at or about the same time with puerperal diphtheria; all of whom we attended for Dr. S. Twelve hours after confinement the temperature was 103°, uterus large and painful; diphtheroid patches forming in vagina. She was etherized and the womb was emptied of about two ounces of fragments of decidua and blood-clots, and was thoroughly irrigated. Two hours after the uterus relaxed, and allowed bleeding to occur. This was checked by hot intra-uterine irrigation. The patient now passed through a somewhat severe attack of puerperal diphtheria. She was treated by tonics and stimulants, and by intra-uterine irrigation with carbolized water twice daily, and with vaginal injections every four hours. In ten days the local symptoms had disappeared (except that a mass, due to salpingitis, was felt in
the right broad ligament near the cornu uteri), but it was now noticed that each intra-uterine irrigation was succeeded by a rise of temperature varying from two to four degrees. Intra-uterine treatment was now suspended, and by another week the patient was free from fever, and five weeks after confinement was able to resume her household duties. Though a double tube was used in this case, yet the mistake was made of employing a bulb syringe.

6. Poisoning from the use of carbolic and sublimate has probably occurred much more frequently than the journals would indicate. We have never seen a distinct case of either, but have sometimes thought that carbolic had produced slow poisoning. Carbolic need not be used in medicine or surgery except to purify instruments, and even for this purpose it is much inferior to boiling. Where it is used carboluria should always be looked for at every visit.

As for sublimate poisoning, it can probably be avoided by attention to certain precautions which will be enumerated hereafter. The indiscriminate use of this powerful germicide is to be deprecated. Some excellent authorities (Mundé, Dolorís) advise that it should never be used in the uterine cavity.

Case XV.—Sublimate Poisoning.¹—On the thirteenth day of a mild attack of septicemia (temperature 102°) with some pelvic inflammation, an intra-uterine injection of warm sublimate solution, 1:4,000, was given through Bozeman's double catheter. "Thirty minutes after injection, temperature 101.4°, followed in a short time by a terrible chill, when it seemed actually necessary to hold the patient in bed. Temperature 106°... In fifty minutes temperature had fallen to 102°, leaving the woman extremely weak, and bowels moving very frequently with much hemorrhage." Recovery, after a tedious illness.

Note that nothing is said about the quantity of sublimate solution used. It is probable that intra-uterine sublimate irrigation has killed more women than it has saved.

The prominent lesion of sublimate poisoning is intestinal ulceration, and the symptoms are those to be expected with such a lesion.

A careful review of the causes leading to the above-described accidents shows that they may be classified under three heads:

1. Those due to the irrigation of the genital tract acting reflexly through the general nervous system. These cases resemble certain forms of urinary fever; as where a man suffering

¹ See New Orleans Medical and Surgical Journal, Jan., 1888, p. 534.
from stricture has a chill followed by high fever whenever a bougie is passed. Case X. is an instance of precisely the same pathological significance, but here the seat of irritation was in the thyroid region.

2. Those due to retention of fluid in the uterine cavity or its passage through the tubes.

3. Those due to poisoning.

All these causes may operate in a single case to produce untoward symptoms.

Whatever the causes of these accidents, it is believed that they can be reduced to a minimum by the observance of certain precautions.

**HOW TO IRRIGATE THE PUEPERAL UTERUS.**

The instruments used are a fountain syringe holding a gallon, with a vaginal nozzle and a double uterine irrigation tube.

The tube we use was made by Lentz, 18 North 11th street, Philadelphia. It is thirteen inches long, one and one-half inches in circumference, and is well curved. The openings for the entrance of fluid are small (\(\frac{1}{4}\) inch diameter) and numerous and extend over about two inches of the upper surface of the end of the tube. Deep grooves on the sides and large openings (\(\frac{3}{8}\) x \(\frac{7}{8}\) inch) into the return channel, extending over five inches of the under lateral surfaces of the uterine end of the tube, provide for the free exit of the injected fluid. The larger the tube the less likely are we to have choking of the exit channel. A tube of smaller diameter is used to wash out the non-puerperal uterus after operations on its cavity, as curetting, etc.
Puerperal Uterus.

First, instruments and hands are thoroughly scrubbed with soap and water, and soaked in tartaric-sublimate solution 1:500. The double tube must be boiled for half an hour before each irrigation, and afterward thoroughly cleaned with nail-brush. Clean out each hole carefully.

About three inches from the edge of the bed a small pillow is placed lengthwise, and over this an ample piece of rubber cloth so arranged as to form a spout passing into a bucket. The patient is placed across the bed, over the rubber cloth, the hips projecting slightly over the edge of the bed. The head and shoulders are comfortably supported by pillows; each leg is well wrapped in a separate blanket, the feet resting on two chairs placed widely apart. After the pudendal hair has been removed by scissors and the external parts thoroughly cleaned, the vagina is thoroughly cleaned by injecting a gallon or more of warm water, through a hard-rubber vaginal nozzle, the holes of which have been greatly enlarged by a penknife. After the vagina has been thoroughly cleaned, a quart of sublimate solution 1:4,000 is allowed to run into it. Take care that the cleaning process is extended into all the folds and recesses of the vagina and cervix, by moving the nozzle in all directions. This must not be left to the nurse.

Now the forefinger of the left hand (which has, as a matter of course, been thoroughly disinfected, warmed, and greased) is gently passed into the uterine cavity, the palm of the hand hugging the anterior vaginal wall, and if necessary the uterine being pressed gently downward. If any foreign matter, as clots or membranes, are detected, the patient is etherized, the well-greased hand is inserted into the vagina, and one or two fingers into the uterus, which is gently but thoroughly emptied by repeated crooking motions of the fingers, adhesions to the endometrium being separated by gentle scraping with the finger-nail.

The uterus having been thoroughly emptied, or having been found empty, the left forefinger is again inserted past the marked flexure always existing in the puerperal uterus at or near the internal os, and the double tube passed along it to or near the fundus. No force must be used. The procedure greatly resembles the passage of a sound into the male bladder. The flow is started before the tube is inserted to prevent the entrance of air.
Nothing but pure hot water should be used until the genital canal is thoroughly cleaned. Then a quart of tartaric-sublimate solution 1 : 8,000 may be used, and should be followed by more hot water.

The tube is allowed to remain for a few seconds, so that all fluid may drain from the uteri. The patient is then turned well over on her side, so that the vagina may empty itself.

The vaginal lesions should now be thoroughly dusted with iodoform (or, if diphtheria exists, the patches, according to Lusk, should be painted with equal parts of a mixture of persulphate of iron and compound tincture of iodine), and a hollow suppository holding half a drachm of powdered iodoform pushed well into the uterus.

**To Avoid Sublimate Poisoning.**

1. Where intra-uterine irrigation is used in the absence of sepsis, use no sublimate, but plain hot water, or salt and water.

2. If the urine is albuminous and scanty, use no mercury.

3. If the urine is slightly albuminous and copious, or if the patient is profoundly anemic, do not use more than a pint of a solution of 1 : 8,000.

4. Always use tartaric acid and sublimate tablets or powders; dissolve thoroughly in a small quantity of water and mix carefully with a definite quantity of hot water in a pitcher, from which pour into the irrigator.¹

5. Always use fountain syringe, and for the uterus a double tube, so as to insure the return of the solution. If for any reason the fluid fails to run out as fast as it flows in (if not through the reflux tube, by way of the channels at its sides), shut off the flow. The irrigator should not be raised more than three feet.

6. Precede by copious irrigation with hot water to wash out blood, etc., which may form with sublimate adhesive albuminous compounds, which may in time be absorbed. Follow by a quart or two of hot water to insure the evacuation of all the sublimate solution.

¹ Campbell, Twenty-first and Pine streets, Philadelphia, makes the only really good tablet in the market. It is composed of sublimate about 4 grains, and tartaric acid about 20 grains. One to a pint = 1 : 2,000. This formula, which is Laplace's, may of course be imitated by any apothecary and put in powder form in waxed paper. It has very great advantages over other formule. (This compound is highly germicide, is very soluble, is not incompatible with ordinary water, does not coagulate albumen.)
7. For the uterus use a solution not stronger than 1:8,000 and not more than a quart once daily.

8. For the vagina use a solution not stronger than 1:4,000 and not more than a quart twice daily.

Irrigation used in the above way is, we believe, a practice almost devoid of danger. We have made more than one hundred and seventy-five irrigations with the double tube and fountain syringe, with no untoward results except in two cases an unimportant rise of temperature, and in one a severe but harmless chill, and even these slight accidents we feel certain might have been avoided by greater care. Yet irrigation of the puerperal uterus will always be a procedure requiring great care and judgment and some skill.

Enough has been said to make it evident that our opinion coincides with that of Crédé and Fehling, that both vaginal and uterine irrigation are attended with undoubted dangers, and should never be employed in the puerperal state unless to meet definite indications.

No paper is considered complete without some statistical evidence. The following table, made from notes of cases occurring in the practice of one of us, is appended, not as affording proof of the positions taken, but rather as showing how often it was necessary in a large mixed practice to have to resort to intra-uterine irrigation. The series contains three times as many difficult cases as usual, and a number of the cases were delivered for midwives and for other practitioners in consultation. While attending these cases, the physician visited all sorts of contagious diseases, including erysipelas, and did many surgical operations in septic cases. The cases include all under his charge from May 22d, 1883, to June 4th, 1884. It may be added that, though nominally in charge, he was actually present during delivery in but two of the cases which subsequently suffered from septicemia.

135 successive cases of confinement.

15 forceps deliveries—one craniotomy, one version for placenta previa.

No maternal deaths.

Six cases of septicemia:

1 very slight, rapid recovery with vaginal irrigation.
1 very slight, rapid recovery with one uterine irrigation.
1 very slight, rapid recovery with one uterine irrigation.
A RARE CASE OF ADENO-MYXO-SARCOMA OF THE CERVIX UTERI.

By Paul F. Mundé.

(With one lithographic plate and three woodcuts.)

The rarity of the disease induces me to report the following case:

Early in November, 1888, I was consulted at my office by Dr. M. V. B. Dunham, of Southport, Conn., about the case of an unmarried lady of 19 years, a resident of a village near Southport, whom he had recently been called to see, and who presented a condition which puzzled him. He found an intensely anemic girl, confined to her bed by sheer debility, who for at least two years had suffered from a profuse watery vaginal discharge, the cause of which had never been ascertained, as she refused an examination. No regular menstrual discharge had occurred during that time. Dr. Dunham found the vulva and hymeneal opening widely distended by a slimy, friable tumor which he could grasp and feel to extend deep into and fill the pelvic cavity. While the slimy masses came away literally by the handful during this manipulation, an attempt to twist the growth with the hand revealed a firm interior structure and a solid attachment, and caused so much pain as to bring on a fainting-fit from which the patient gradually rallied. The doctor could not find any reference in literature to growths of this kind springing from the cervix uteri, and I confessed to him that a record of a case of probable myxoma of the size described by him was unknown to me.

As an early removal of the tumor was, of course, indicated, as soon as the patient had somewhat recovered from the examination Dr. Dunham notified me, and on November 23d, I proceeded to the patient’s residence, and made a thorough examination under chloroform, and with the assistance of Drs. Dunham,
Osborne, and Higgins removed the tumor. I found that I could easily pass my whole hand into the vagina and encircle the tumor, which occupied the whole pelvic cavity from brim to outlet, and which apparently sprang from the centre of the vaginal roof, to which it was firmly attached. Bimanual examination showed the small body of the uterus to be continuous with the vaginal tumor which was thus revealed as the whole cervix enormously hypertrophied. The cervical canal was evidently situated in the centre of the tumor, but the external os could not be recognized at the time. (On the specimen it is easily visible as a large cleft near the apex of the tumor, but is not shown on the diagrammatic sketch made after my description of the tumor, although the sketch represents very well the size and relations of the growth.)

During the examination the myxomatous covering of the tumor gushed out in torrents, some of the masses discharged being well-formed oblong globules of yellow color as large as a sweet-water grape. Through a Sims' speculum, I passed a constrictor wire over as much of the tumor as I could, removed it, and then the remainder close to the vaginal vault. The central portion of the growth was so dense in structure that it actually creaked as
the wire cut through it. The whole mass when put together, with the myxoid masses squeezed off during manipulation, measured fully five inches in length by three inches in diameter. At least this was the size of the wire loop required to surround it. To guard against subsequent hemorrhage, I passed two deep silk ligatures through the vaginal vault on either side, and tamponed the vagina tightly. The small sketch shows diagrammatically the stump of the cervix with the orifice of the cervical canal in the centre. In the vaginal vault were several dark patches, from which oozed the same myxoid masses as composed the surface of the tumor.

Fig. 3.—(From Thomas.)

The patient, who was anemic to the last degree, reacted well from the chloroform, and made a good recovery so far as the operation is concerned, but, her physician informs me, has at present (January 12th, 1882) failed to regain her strength, and the tumor has grown again to about one-half its size before the operation. Further operative interference has been declined.

The microscopical examination kindly made for me by Dr. Heitzmann shows the following condition: "The tumor from the cervix brought by Dr. Wells for examination a week ago reveals macroscopically quite a large number of cysts; under the microscope it shows myxomatous structure, in the meshes of which are
A GRAPE-LIKE MYO-SARCOMA.

STRIOCELLULARE UTERI (PERNICE)
imbedded a variable number of lymph or adenoid corpuscles. In some places these lymph-corpuscles are breaking up into sarcoma corpuscles, though this change has as yet not advanced very far. There are also present a small number of glands lined by columnar epithelium. The diagnosis therefore is: Myxo-adenoma changing to myxo-sarcoma in cystic degeneration.

On looking over the literature I found in Thomas' "Diseases of Women," 1880, page 560, a diagram of a similar tumor removed by him (see Fig. 3), which I had overlooked. It differs from mine in seeming to spring from within the cervical canal, while mine involved the whole substance of the cervix. After describing the well-known and common glandular polypus of the cervix uteri (of which small specimens of the size of a bean or even larger have been observed by every physician interested in gynecology, but which I have never seen larger than a hen's egg), Thomas goes on to describe his case as follows:

"The most remarkable instance of this variety with which I have ever met is that represented in Fig. 226. The whole growth measured in length four and a half inches, and in longest diameter two and seven-eighths inches. It filled the vagina completely, grew from the inner wall and lip of the cervix, caused no symptom except leucorrhoea and pelvic neuralgia, and was not known to exist until difficulty in sexual intercourse caused the patient to apply for examination. The mass was examined after removal by Dr. F. Delafield and found to consist of enlarged cervical follicles, the grape-like masses shown in the diagram, which was copied from nature by Dr. J. B. Hunter, bound together by connective tissue. I removed it with great ease by the écraseur."

Dr. Thomas tells me that he never heard from the case again, and therefore does not know whether the tumor returned or not.

I am indebted to my associate, Dr. B. H. Wells, for a further search of the literature which resulted in his discovering a recent paper by Ludwig Pernice, of Greifswald, Germany, "On a grape-like Myosarcoma strio-cellulare uteri," published in Virchow's Archiv, July 3d, 1888, which records a case almost identical with mine, and gives the scanty literature on the subject.

The lithograph accompanying Pernice's paper so graphically illustrates the appearance of the growth and its origin from the whole cervix that I have reproduced it (see Plate), a liberty for which I herewith crave the author's pardon, not having had time to ask his permission.

Pernice's case was that of a married multipara (age not given)
who some six months before admission to the clinic began to bleed from a tumor which projected from the vagina. On its removal by excision on October 27th, 1886, the tumor was found to spring from the whole vaginal portion of the cervix, portions of which were still healthy; it was of the size of one and a half fists, and closely resembled a bunch of grapes, being covered with bluish-red berries, even into the clefts of the growth, which contained a jelly-like viscid fluid. The cervical canal ran through the whole length of the tumor.

The incisions, which bled very little, were closed by sutures, and the patient left her bed on the tenth day.

The tumor proved to be a "grape-like, soft, highly cellular fibroma (sarcoma), with striated muscular fibres." The latter closely resembled those of a fetus of the tenth week, the shape of both fibres and nuclei having a distinct embryonal type. The berries were composed of soft, edematous connective tissue, with myxomatous degeneration, and numerous spindle-shaped, stellate, or round cells. (For the further details of the microscopical examination, lack of space obliges me to refer to the original.)

Two months later, the patient returned to the clinic with a tumor of the size of a goose-egg, which was removed with the galvano-cautery wire, the peritoneal cavity being accidentally opened. Recovery ensued without a drawback. On September 18th, 1887, or nine months later, the patient was again admitted, but this time for an abdominal tumor reaching nearly to the epigastrium. Laparatomy was performed, but the adhesions were so extensive and the tumor so evidently malignant that the wound was closed. Recovering from the operation, the patient died of pneumonia, probably produced by the pressure of the rapidly growing tumor, a month later. Microscopical examination of the second and third tumors showed them to be a large-celled sarcoma; the myxoid degeneration of the first tumor was absent, although in the second tumor several spots resembled the surface of the first tumor.

A rapid degeneration of the still partially benign adenomyxomatous structure into pure, large-celled sarcoma is thus visible even at the first recurrence. Certainly this appears to be also the course in my case, which seems to differ from that of Pernice in the greater amount of fibrous tissue composing the centre of the tumor.

EXPLANATION OF PLATE.

1. Cervix uteri, with tumor hanging from it; natural size. Sound passed through cervical canal. L. line of excision; a, a, and b, berry-like growths; c, fragments of delicate epithelial membrane covering a number of the berries.
2. Section of a berry hardened in alcohol (Beneche, Oc. 3, Obj. 7). a, type of stroma; b, numerous interlacing striated muscular fibres; c, fibres in which the strie cannot yet be seen; at times, c, these fibres are cut transversely.
3. Cells from the third tumor, fresh specimen. a, stellate cell with numerous nuclei; b, spindle-cells with one long nucleus; at c, the ends of the spindle fatty; d, spindle-cells with several nuclei; e, fatty debris with free nuclei, partly fatty.
4. Striated spindle cell from the first tumor.
5. Muscle fibres from a five to six weeks old embryo.
Pernice reports six other cases of similar degeneration of the cervix, all he was able to find. He overlooked that of Thomas, and there are, therefore, including mine, nine cases of this singular and destructive disease on record, viz.:

1. *Thiede,* a fibroma papillare cartilaginesens, first composed only of connective tissue and cartilage, but on its return proving rapidly fatal.

2. *Rein,* a "myxoma enchondromatodes colli uteri," resembling a hydatid mole. It returned rapidly after removal, and developed metastatic deposits, which contained myxomatous tissue besides cartilage.

3 and 4. *Spiegelberg,* both similar to that of Rein. One patient was lost sight of, the other died after the removal of the uterus with the tumor, of a return of the disease in the peritoneal cavity. Both tumors were papillary sarcomas of the cervix.


7. Thomas. 6
8. Pernice. 7

The microscopical descriptions of two of these cases (Thiede and Weber) are so defective as to give rise to some doubt whether they are histologically identical with the distinct myxomatous degeneration characteristic of the other cases.

While ordinary mucous polypi of the cervical canal may give rise to so much menorrhagia and leucorrhea as to eventually debilitate and even exsanguinate the patient, they are not known to become malignant, are easily removable, and do not return.

The lesson to be learned from the cases related in this paper would seem to me, however, to be, that, not knowing when a benign mucous polypus or diffuse hyperplasia of the glands of

3 Arch. f. Gyn., 1879, xiv., p. 178; ibid. xv., 437, and xvi., 124, 1880.
4 Winkel, "Lehrb. der Geburtsh.," 1886.
6 L. c.
7 L. c.
the cervical cavity may take on the type of rapid growth and possible eventual malignant degeneration, it behooves us, as a precautionary measure, to remove all mucus polypi, however small, as soon as discovered, and to thoroughly destroy by curette and caustics all diseased glands in the cervical canal.

As shown by the rarity of the cases, such malignant degeneration is fortunately not often to be apprehended. But that it may occur independently of the stimulus of the injuries to the cervix produced by parturition, the most common cause of diseases of the cervix, is shown by my case.

I should mention that two cases of myxomatous degeneration of fibroids of the body of the uterus are reported, one by Tait, the other by A. W. Johnstone, of Danville, Ky., in both of which the histological appearances closely resembled that in my case. The condition was only discovered during the removal of the tumor by laparotomy.

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HYDRAMNION.

BY

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Hydramnion, as general usage defines it, means an abnormally large bag of waters. It occurs about one time in every hundred or one hundred and fifty cases. Ordinarily there is from one and a half to two and a half pints of the amniotic fluid. When it exceeds the latter amount, it is a case of hydramnion. Less than five pints will not be likely to cause trouble or attract attention. The cases that have been deemed worthy of note have varied from ten to sixty pints. It usually occurs in multipara. Many women who have dropsy of the amnion are syphilitic and that frequently the fetus bears signs of syphilis is the dictum of the books, although my personal ob-

servations have in no wise confirmed this belief. It frequently coincides with twin pregnancies. The children are usually monstrosities. The cause of hydramnion probably exists in the ovum. As to the exact source of this excessive amount of liquid, there is much discussion and the question is yet an open one for your investigation.

Symptoms.—Usually the disease does not appear until the fifth or sixth month. The early symptoms are vomiting, followed by general debility, emaciation, and a rapid, weak pulse. There is one symptom, though, which is always present: abdominal pains. Sometimes there are lumbar pains also. These pains are remittent in their character, and usually worse at night, causing severe nervous complications as a result of long-continued loss of sleep. The abdomen increases in size with unusual rapidity, and it is much more evenly enlarged than in normal pregnancies. Metrorrhagia is not uncommon. Constipation and indigestion are the rule. Owing to the great amount of water, the fetal heart-sounds are often difficult to detect. It is also, in advanced pregnancy, almost impossible to outline the uterus, as its walls and the abdominal parietes are tensely stretched.

The abdominal walls are usually very tender, and this great sensitiveness to pressure also interferes with accurate diagnosis by palpation. Transverse presentations are much more frequent than in normal labor. The prognosis for the mother is usually favorable, but for the child the prognosis is very grave.

Treatment is often the same as in ordinary pregnancy, but if the pains become very severe and there is serious disturbance of nutrition and dangerous nervous symptoms, there should be operative interference. In order to save the child, the proposal of tapping the uterus through the abdominal walls has been seriously broached; but as the fetus is probably a monstrosity, this operation is unjustifiable. Rupture of the membranes is usually the only active step necessary. This should be done with the nail of the index finger, between the pains. If the amniotic sac is ruptured during a pain, the water will rush out so suddenly that there is a possibility of the membranes, cord, fetus, and placenta all being swept along together. As a consequence of the sudden complete evacuation of a

greatly distended uteruses, there are liable to be insufficient contrac-
tions, hemorrhage, and syncope. In every case of hydram-
nion, the physician should have a hypodermic syringe, a bottle of
normal liquid ergot, a dish of ice, an abundance of hot water, a
fountain syringe, a bottle of aromatic spirits of ammonia, a
bottle of brandy, and some sulphuric ether, all at hand, so that
he will be prepared to meet the gravest emergency.

The following is an interesting case:

Mrs. H., age 40. I had previously attended her in five normal
labors. The last was in April, 1887. She menstruated twice
after that in November and December. She then felt much
more miserable than usual during pregnancies. In August,
1888, she went with her family on a trip to the coast, but, owing
to an accident, was obliged to take a long walk, during which
she became very warm. She then got chilled and the result was
a severe attack of bronchitis, which continued, after her return
home, during the first three weeks of September. She coughed
very hard and suffered great pain. The abdomen enlarged ab-
normally. The pains were worse at night. She suffered from
constipation and had no appetite. Her pulse varied from 90 to
120. She had no fever, except in the acute stage of her bronchi-
tis. This absence of fever is a peculiarity of cases of hydram-
nion. Quite severe pains at night and annoying pains during
the day continued until October 21st, when I was sent for in
great haste, with the statement that she was in labor. The
vagina was very sensitive (which is the rule). I could barely
reach the os, which was dilated very little, with my index finger.

Gave rectal injections of hydrate of chloral, and went home.
October 23d, the pains still continued, and, on introducing
middle and index fingers, could reach the cavity of the womb
and now and then feel a floating body that would immediately
retreat on the slightest touch.

I then combined laudanum with the hydrate of chloral injec-
tions and gave the patient a brief sleep. October 23d and 24th,
the labor continued remitting from time to time. On the morn-
ing of the 24th, I became certain that there was a vertex pre-
sentation. During the night of the 24th and the forenoon of
the 25th, the inferior segment of the uterus grew rapidly thinner
and the os dilated. At 2 P.M. on the 25th, the os was well
dilated by the bag of the waters, but the head had not engaged
in the superior strait. I then ruptured the membranes with
my index finger and the water began to pour out and when the
next pain came the fetus was forced completely through the
pelvic canal and delivered. At the same time the water gushed
out over the bed in large quantities. I was so concerned about
the life of the mother that no effort was made to measure the
water. Three (3) gallons is a moderate estimate. The wom-
l immediately contracted upon the placenta, but I made no at
tempt at delivery for about ten minutes, when, by using slight pressure over the fundus, the after-birth readily came away. There was no excess of bleeding and the patient soon rallied. The fetus made a few movements after its birth, but seeing it was a hideous monstrosity, I left it lying in the amniotic liquid that stood in a great pool on the bed. This gives rise to the question: Is a physician justified in asphyxiating a monstrosity? If a physician performs craniotomy and yet, as has occurred, the child cries after its birth, is he justified in causing the complete extinction of life? If the answer is yes to one, I think it should be to the other.

This monster has a head greatly elongated in the cervico-bregmatic diameter. The cranial bones are widely separated. There are no eyes and no marks on the face to indicate their location. Just above the mouth is a depression where the nose should be, and an inch and a half above that is a rudimentary nose, one inch in length. On each hand there is a supernumerary finger. The body and extremities are well developed.

Very recently I had another case of pregnancy where there was unusual enlargement of the uterus during the sixth month. The pains and nervous symptoms were constant and severe. Near the close of the seventh month the woman, after a great discharge of water, miscarried. The child was alive and fairly developed. My advice is to examine carefully for hydramnion in all cases of pregnancy where the woman complains of severe and long-continued abdominal pain. Also, in all cases of spontaneous premature deliveries, inquire carefully about the growth and shape of the abdomen, pain, and the quantity of water dis-
charged. It is very probable that a large proportion of the
miscarriages that are not "induced" are caused by an excess
of the amniotic fluid.

A CONTRIBUTION TO THE LITERATURE OF MASSAGE OF
THE UTERUS AND ADNEXA.

BY
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The introduction of any new procedure in medicine is cer-
tain to be followed by its too general application. This is the
case with massage of the uterus and its appendages. The field
of this method of therapy is, I am certain, a limited, though not
the less very useful one. It should be practised only in skilled
hands where the chances of accident are much diminished. It
is not possible for the gynecologist to judge of the effects of
the gymnastic movements carried out in the system of Brandt
when used as he has applied them in cases of extreme prolapsus
uteri or recti. The Swedish movement is an art of its own,
requiring a special training and study to carry its various move-
ments to their finish. Again, time would scarcely be at the
disposal of even the moderately busy medical man to carry a
patient through the manoeuvres described with such detail by
Thure Brandt. The physician has therefore been able to apply
only that part of Brandt's method which is purely local and
not difficult to carry out upon patients in the office or ambula-
torium. It would not be just to pass judgment from these few
procedures on the entire Brandt method. It would seem, there-
fore, desirable to combine the services of a skilful masseuse with
those of the gynecologist, in order that the purely local may
be combined with the general massage.

The results of local massage of the uterus and adnexa have
been so gratifying to all who have justly tried the methods
that it is not surprising to see a literature upon massage of these
organs already accumulating. During the past twelve months
I applied these methods in cases which it is the fate of every
gynecologist to see in his dispensary or office practice—cases which stray from one clinic to another, disheartened with pains. I have in many cases been amply repaid by the gratitude of these patients. After a period of treatment, my patients, previously practically invalided, have been enabled to go about their daily tasks comparatively well and free from marked pain. One case especially I shall never forget; it certainly was a striking one. The patient having been operated upon for lacerated cervix, contracted a parametritis during the convalescence from the operation. Though discharged from the hospital, the patient continued to run down until, when I saw her six months later, she was an invalid in bed. Under preliminary treatment and regular massage of the uterus, the patient was relieved of pains, and now is one of the most grateful of my patients—improved in health and strength, and for long intervals free from all symptoms. The above extreme case is only one cited from a number. The object of this paper is not to record successes; this has been done to sufficiency. It is rather my object to demonstrate my experience, at the same time not hiding my failures with the method. The accidents occurring to me are intended to instruct rather than intimidate.

History.—It may be pardonable if, for the benefit of those who have not access to translations or original brochures, to say that the history of massage has been enriched lately by contributions containing the labors of B. S. Schultze, Seiffart, Paul Profanter, and a translation of the Swedish brochure of Thure Brandt by Resch. In all these we find modifications and suggestions upon the original methods which Brandt, a layman, evolved from the art of Swedish movement gymnastics. He was the first to apply these movements in the treatment of the female generative organs. The subjects treated suffered mostly from malpositions, displacements of the uterus or adnexa. It is impossible at present to do more than mention that Brandt has employed his completed method of gymnastics of the Swedish school with local massage to diseases mostly of mechanical displacement of the uterus and appendages. Seiffart and Profanter publish detailed successes, as does also Schultze, of the method. Schultze's method is simply an advanced form of massage, a forcible redressment of the uterus under chloroform. (This is not true massage, and I will not consider it here.)
Profanter now publishes cases of prolapsus uteri treated according to Brandt.

Class of Cases.—Inasmuch as I have been compelled to satisfy myself with the meagre notices in the literature before the appearance of the brochures of Schultze, Profanter, Seiffart, and Brandt, the original of the latter being in Swedish, it is quite natural that I have by experience learned for myself the cases best adapted to this treatment. I shall, therefore, refer the reader to the above brochures and only detail my own views.

1. Those cases of severe hyperesthesia of the uterus remaining after prolonged childbed, or this combined with a parametritis after an abortion, or, as in one of my cases, after operation for lacerated cervix. On examination of such a patient, who may have been confined to bed for a long period after confinement, we find a very sensitive but heavy uterus, with enlarged uterine cavity, both as to length and capacity; the body of the uterus may feel soft, elastic, as if pregnant in the early months. The examining finger finds that, on ballotting the uterus, it moves to a certain distance, but is fixed at the side of the junction of the cervix to the body of the uterus by adhesions to the side of the Douglas' pouch. The patient experiences great pain on manipulation even of the gentlest character. The heavy body of such a uterus may be retroverted or even retroflexed, and retroverted and pushed back into the hollow of the sacrum (retroposed). The adnexa are of normal size, but sensitive. The symptoms are out of all proportion to the amount of disease, which consists as above, and most marked the slight though fixed adhesions. Such patients at the menstrual epoch suffer so as to be compelled to keep to their bed. We find such patients have been diligently doused and narcotized, and are beginning to consider themselves incurable.

2. Cases of dysmenorrhea, generally of a nervous nature, combined with chronic oophoritis, with hyperesthesia of the uterus; pain on intercourse; sterility. Massage is here directed to relieve pain.

3. Cases of retro-displacement of the uterus in women who have borne many children, but in whom a pessary does not relieve, or who cannot retain a pessary long, with pains in groins or back. Here the uterus is very slightly enlarged, and also has an elastic feeling, but it is quite movable; there is no parametritis or perimetritis, but every movement of the organ
gives pain. It is very sensitive on the back of the fundus. Here massage is combined with the use of support (pessary).

4. Chronic oöphoritis, with or without slight enlargement in size of the ovary, or displacement of one or other ovary.

5. Chronic parametritis with perimetritis, fixation by slight amount of adhesion or exudate. In these cases they can be treated by massage (ambulatory) only when the adhesions are not marked or the exudate not great in amount, but still enough to fix the uterus and cause the discomfort of patient.

We should deprecate the use of massage in (1) all cases of endometritis of acute and chronic nature where the discharge is marked to the eye, especially if such discharge be suspected gonorrheal (gleety). (2) During menstruation, though we find this has been done by Dr. Nissen in 1884. For these reasons (a), because it is very distasteful even to patients of a very lowly class. (b) We cannot during the menstrual period tell the amount of endometrial disease. (c) Manipulation of an organ (adnexas) in the period of its periodical activity is liable to cause irreparable mischief. (Hematoma, perimetritis, and from this general disease.) (3) In any case where the tubes feel in the slightest degree dilated (pyo-salpinx) or the ovaries uneven (small cysts). (4) In old circumscribed tumors behind the uterus in Douglas' pouch, or at the brim of the pelvis. Local treatment of such tumors or hematoma can scarcely be justified. I have simply drawn upon cases which have come under my care, and in some the above accidents have occurred during massage when the disease was thought to be rather exudate than abscess, or probably small follicular cysts were not diagnosed. In some cases we can feel an ovary only slightly enlarged, but it is not possible to make out some of those thin-wall cysts a quarter to one-half an inch in diameter seen post mortem, and which I think it is not impossible might burst during manipulations.

To sum up: any cystic disease or condition of the adnexas or acute parametritis, endometritis, acute or chronic, with profuse discharge, peremptorily in my mind excludes massage. Those cases of marked adhesions which are treated by Schultze's method are, of course, excluded.

Method.—The case should for a short period be treated with mild laxatives to fully clear the rectum. The use of the boro-glyceride tampon should precede the treatment by a few days.
Patient takes dorsal position, knees drawn up. The vagina having been thoroughly cleansed with either a moist swab or douche, the operator with only one finger well oiled (index of the left hand) passes behind the cervix uteri. The palm of the right hand holds at first the ordinary conjoined position. The following precautions should be observed: the finger and hand in the vagina should not touch, in working the parts, at the upper part of the introitus, but should be depressed toward the perineum. The hand palpating the uterus from without should not come, if possible, in contact with the parts from the symphysis. The operator stands in front of the patient to one side towards the left knee. The left arm may be rested upon the knee of the operator, which is raised on a stool. The first movement of the massage is to pass the palm or surface of the fingers of the right hand (palpating) in an antero-posterior direction from the summit to behind the uterus, at the same time exerting a slight traction force on the cervix from the vagina, and with the massaging fingers through the abdomen. The second movements are the same manœuvre, but exerted in one or other oblique diameter of the pelvis. The tendency of all movements is to draw the uterus, by massage and traction, toward the symphysis upward and forward (supposing the uteris to be fixed and retroposed). The ovaries are treated by rolling them between the vaginal finger and the external palpating fingers, displacing them if prolapsed to their normal position, or even drawing them inside one of the oblique diameters toward the uterus. Painful normally situated ovaries are treated by simply passing the palpating fingers on the abdomen over them in an arched direction transversely, keeping the finger in the vagina fixed. Massage in any transversely arched direction is also one of the useful manœuvres (Brandt) practised upon the fundus and body of the uterus.

The duration of massage movement must vary, and, as far as my experience goes, it is rarely possible to keep a patient more than ten minutes, generally five minutes, sometimes less, on the table. The patients themselves strenuously object to longer procedure, which is, it must be confessed, exhausting. From a perusal of Brandt's "Memoir," we should suppose a longer sèance, and my time may seem very short, but satisfactory results and safer ones may be obtained even with such a short period, and the patient is apt to allow a repetition of procedure.
Force.—There is no standard force; the fingers must be so trained as to be able to measure the requisite force. I never watch the face of the patient—a rather indefinite criterion. A force of kneading rather than of tearing should be employed; tearing is brutal and not massage, and this is all that can be said. Accidents must occur in the most skilful hands with even a minimum force. There should be no hemorrhage from the uterus or vagina after the manipulations, though this is mentioned as not harmful by Brandt, yet it must have appeared in isolated cases where an unduly prolonged séance has been resorted to or an undue amount of crushing force. We should be careful and try to so direct the forces in the vagina and externally as not to bend the uterine body excessively upon the cervix; this is very painful. Again, it is cruel to introduce a blunt sound and massage the body of the uterus upon it. It must in some cases be positively dangerous. After massage, a small-sized boroglyceride tampon is introduced into the vagina to support the parts. In retroversion, it is placed high up behind the cervix. The patient should not experience uterine pains.

Objections and Dangers.—The patients are found, even in an ambulatory practice of lowly people, very sensitive to this mode of treatment; it must be confessed it is rather trying to the patient aside from any considerations of pain and discomfort. In sensitive women, the remedy for this is narcosis at their homes, but for so small a procedure the physician will hesitate to give ether. I have never done it. Yet after the benefits have been noticed, the patients, though reluctant, submit to treatment. It seems diplomacy, if nothing else, to try every other simple means to relieve the pains and symptoms of the patient before resorting to massage, if for no other object than to demonstrate to the patient the futility of other means and the necessity of massage.

The Dangers of Massage are:

(a) Hemorrhages.
(b) Rupture of bands and ligaments.
(c) Expression of pus into the peritoneal cavity from an unrecognized pyo-salpinx.
(d) Rupture of small follicular cysts of the ovary or small collections of pus in bands of adhesions; recent parametritis.

By hemorrhage, hematoma is more particularly referred to.
The constant traction upon peritoneal adhesions or the kneading of parametritic exudate may, in isolated cases, cause rupture of some vessels beneath the peritoneal surface, causing a hemorrhage of considerable extent. This occurred in one of my cases: a woman aged 25, Irish extraction; married six years, sterile; uterine fixed behind to sacrum right side. Exudate around the junction of cervix and body in Douglas' pouch. After a seance of massage, patient complained of the usual discomfort; no marked pain. On reaching home, pain became more marked and distinctively located in the right groin. Kept her bed for two days; up and about after; returned saying she felt a distinct and new pain unlike anything she had experienced since treatment. As patient expressed it, "she felt a lump inside her to one side." Examination showed a small tumor of recent formation to one side of the pelvis about on level with the brim, probably inside the parametritic adhesions (hematoma). Under expectant treatment the tumor grew small, hard, and less painful. I did not renew treatment on this patient. I thought it too dangerous. I am aware that massage is recommended in cases of hematoma. It must, however, be a procedure of very questionable utility in recent, well-diagnosed cases.

It is not difficult to see how any undue force may result in tearing or rupture of ligaments or adhesions: this I distinctly think is always attended with danger, and massage does not seek to rupture, but mildly stretch.

There are some cases where the patient seems to be doing very well, when sudden pain is experienced on massage of the ovary. This pain does not disappear but persists, and though it disappears in a few days leaving no palpable lesion, I have always questioned whether this was not due to the rupture of some minute cyst of the follicles of the ovary near the surface into the peritoneal cavity.

There must be great danger attending any manipulation of tubes where, though there may exist some disease, it has not yet led to any thickening or circumscribed swelling which can be palpated by the conjoined method. In order to avoid accident, it seems desirable to avoid the region of the tubes in massage as much as practicable.

A case has come under my observation which illustrates how impossible it is in some cases to diagnose exact anatomical conditions.
Patient, aet. 31; borne children; since last child had suffered from backache, pain in groins and pelvis. Excessive pain on menstruation, periods appearing at times twice a month. Examination showed a laceration and erosion of the cervix; no endometritis; uterus fixed posteriorly between body and cervix by a thick band; body large and soft. Diagnosed chronic parametritis. Massage; after few days patient complained of some pain at one sitting; nothing marked, but at the next s{éance} told me she had noticed a profuse purulent discharge from vulva which had never been present before. I examined and found the discharge thick creamy pus, coming in good quantity from the uterus. Examination showed a marked diminution in the thickness of the adhesions posterior to uterus. I surmised that a collection of pus had found its way from the adhesion into the body of the uterus. I could explain the symptoms in no other way. Massage suspended. I thought the patient was fortunate to have escaped an exit of pus into the cavity of the peritoneum.

In the above, I have endeavored to show how difficult it is even with great care and selection of cases to avoid accidents. In the recent literature of massage, Schauta, of Prague, would limit the exercise of the method only to those who have seen the master, Brandt, or his pupils perform the various methods, and again Stumpf, of München, treats the subject in the same category with surgical massage, an evidently entirely different procedure. I think neither of these authors correct. In the most skilled hands in any department of medicine, unrecognized accidents occur. We can only ask that the physician who proceeds to massage should be well versed in gynecological examinations, and have excluded in each case contra-indications. In this way good effects may ultimately be attained in cases where other means have been tried and failed to relieve in the class of patients above mentioned, who without any marked disease of the uterus and adnexa are compelled to suffer pains which invalid them as far as even ordinary duties of life are concerned.
A CASE OF ULCERATION OF A FOREIGN BODY FROM THE VAGINA INTO THE BLADDER.

BY

M. B. ELLISON, M.D.,
Canisteo, N. Y.

Instances where foreign bodies have been found in the vagina or bladder are so numerous that hardly a passing notice is allotted them. A possible and interesting complication following their long retention is mentioned in Mann’s “System of Gynecology,” page 530, it being there stated that pessaries or other foreign bodies may ulcerate through from the vagina into the bladder.

The case of Dr. Hammond, reported in Emmet’s work, page 659, where one arm of a “horse shoe” pessary had penetrated the vesico-vaginal septum into the bladder, gives us positive proof that this accident really does occur.

That other foreign bodies may pass from the vagina into the bladder by an ulcerative process is shown by the following case:

Miss M. P., age 13. Is well developed, menstruated at 11, irregular pains during the period, lasting about three days. General health poor, has a well-marked hysterical condition, has not been well since the spring of 1887. At that time she began to suffer from backache, pain in the pelvis, difficult and painful micturition.

A physician was called in attendance at that time, and from the symptoms present, made a diagnosis of “vesical catarrh,” and prescribed accordingly. She improved and passed from his observation.

On November 24th, 1888, she consulted a second physician, who after a most careful and thorough examination made a diagnosis of stone in the bladder. I was called in consultation on the case December 1st and confirmed the diagnosis of Dr. Gillette, of Greenwood, N. Y., the attending physician, and noted the following interesting history, viz.: Following her illness in the spring of 1887, she began passing from the vagina a quantity of fetid pus, the dysuria continued, she became nervous, lost flesh, could not remain long in the upright position, was compelled to void urine at least every half-hour up to about
November 1st, 1888, following which, there has been incontinence. The pain became so severe that she was compelled to resort to morphia for relief.

Vaginal examination revealed a very interesting condition: There was no cervix to be reached by the fingers, and there seemed to be an atresia of the vagina at a point about an inch above the meatus urinarius, the cause of which probably was some inflammatory action. Bimanual examination, with one

finger in the rectum, revealed a hard mass at a point above the atresia. With the sound resting on the calculus and the finger in the rectum, it was evident that the hard substance was either a part of the calculus or attached to it. The conclusion arrived at, however, was that the calculus was firmly encysted in the posterior wall of the bladder.

Vaginal cystotomy was decided upon, and with the assistance of Drs. Gillete, Parkhill, and others, I entered the bladder

Spool and Calculus in situ.
through the vesico-vaginal septum in the usual manner. I came readily upon the calculus, but on attempting its removal found great difficulty, owing to its fixed condition. Making a more thorough examination and enlarging the opening, I found the calculus, which had previously occupied the same position, to have changed, and another body, quite unlike that of the calculus, to have taken its place. The new body gave to me a "woody" sort of a feeling. It was imbedded in the posterior wall of the bladder; but partially movable and could only be extracted by lifting it from its bed and turning, which was done, and much to our surprise, it proved to be a "common spool" to which had been attached the calculus, as shown in the accompanying cut.

A quantity of fetid pus followed the removal of the spool and calculus. On introduction of the finger through the opening made into the pocket formerly occupied by the spool, the os uteri could be felt and what seemed to be the rugae of the vagina. The opening was left free and the bladder washed out daily with 1:20,000 sol. bichloride. No pain, increase of temperature, or pulse followed the operation. She was sent home December 19th, to await a further operation for the atresia and vesico-vaginal fistula.

The spool and calculus weighed 400 grains, the spool was 1.9 in. in length, 1.2 in diameter.

One of the noticeable features of this case was that the menstrual flow made its exit through the opening made by the spool into the bladder and out through the urethra. Also the pathological changes in the vagina, resulting from the presence of the foreign body, had closed the vagina below the spool before the fistulous opening was made in the bladder, thus preventing incontinence.

The patient acknowledged having pushed the spool into the vagina in the early part of 1887, previous to her first illness. It will be seen from the cut that the rim of one end of the spool had been removed; this had doubtless been done when it was placed for the purpose of satisfying her primitive sexual desires. It had passed beyond her reach; her shame, modesty, and fear of surgical procedure had prevented her from the confession of its introduction until it had been removed and she was confronted with the facts of the case; the spool was the nucleus for the calculus. The calculus and deposit around the spool was phosphatic.
A SUCCESSFUL CASE OF LAPARATOMY FOR EXTRA-UTERINE FETATION.

BY

DR. W. J. CHENOWETH,
Decatur, Ill.

About the 1st of November, 1887, Mrs. B. consulted me on account of uterine hemorrhage which had continued since the birth of her second child (September 20th). She had been married seven years, had one miscarriage, occurring two and a half months after marriage, was confined at full time with her first child November 21st, 1883. After the birth of this child, she had hemorrhage which lasted two months. On the 12th and again on the 22d of November (1887), I curetted the uterus, after which the hemorrhage ceased, and her health improved until some time in January, when a stomach trouble with which she had been afflicted from childhood, became greatly aggravated. I prescribed for this, but did not see her again until about the 1st of May, when she consulted me on account of sickening pain and a fulness of the lower part of the abdomen. Bimanual examination revealed an obscurely fluctuating tumor in the left side of the pelvis, apparently unconnected with the uterus which was pushed off to the right and front. I introduced a sound into the uterus about four inches and moved it about freely without detecting any connection between it and the tumor. Taking into account the situation of the tumor, the previous hemorrhage and tedious sickness, I diagnosed a salpinx, probably the sequence of an endometritis. But not fully satisfied, I called my son (Dr. C. Chenoweth) and requested him to examine her. He pronounced it an ovarian tumor. While neither of us felt satisfied of the correctness of his opinion, we agreed that the tumor should be removed. Mrs. B., wretched from pain and sickness, readily consented and wished for an early operation.

With the assistance of Drs. M. V. Lonergan and C. Chenoweth, the tumor was removed on the 15th of May. Mrs. B. being much emaciated, so soon as the abdomen was exposed a marked prominence was seen in the left iliac region. The tumor was reached by an incision in the median line about three inches long. In attempting to lift it from the pelvic cavity, the uterus was dragged up with it. Dr. C. Chenoweth suggested that we could remove it more readily by evacuating its contents, and, with my consent, he introduced a trocar and canula. A large amount of blood gushed through the canula, making it necessary to enlarge the incision in the abdominal walls that we might
reach the blood-vessels supplying the tumor. After tying numerous arteries, and severing many attachments, we were finally enabled to lift the tumor from the abdominal cavity, and to throw the ligature (with Staffordshire knot) around its attachment to the uterus and to separate it. The cut surface of the uterus, which was about two inches in diameter, bled freely until seared with a hot iron, and the edges were stitched. The attachment had been to the left cornu of the uterus, and our incision had encroached on the fundus. The uterus appeared to be elongated and narrow. So far as I could judge, without measurement, it was about five inches long and half as wide. Up to the time when the tumor was removed and the hemorrhage arrested, I supposed that we were dealing with a hemato-salpinx. The tumor was probably five inches in diameter and somewhat globular in shape. The left Fallopian tube was attached to it, and seemed to be part of it. Dr. Lonergan suggested that it was probably an extra-uterine fation, and his surmise was assured when we cut it open and found a fetus of about ten weeks. Where the tumor was cut across it was thick and muscular, while on the opposite side it was so thin that we were surprised that it had not ruptured on handling. It was a completely closed sac not requiring a single ligature to retain its contents. The placenta was unusually large. I had thought that the differential diagnosis between extra-uterine fation and other tumors of the pelvis could be made out by careful examination, or that there would certainly be a suspicion of the existence of such a condition, but if there was anything in this case to lead us to believe that it was an extra-uterine fation, I did not then discover it and have not since been able to point it out. While I have not had the opportunities offered by a city practice, I have not been devoid of experience, having assisted in five, and operated in sixteen cases of abdominal section. That we made a mistake is certain, but that it was avoidable I am not certain. Fortunately, the operation was in time to prevent rupture of the sac and consequent death; for had the case gone on even for a few weeks, the sac certainly must have ruptured and death ensued, unless by some happy chance the situation had been discovered early enough to have admitted of successful operation.

I append notes of the subsequent treatment furnished by Dr. Lonergan, who had charge of the case after the operation. Mrs. B. was seen by my son and myself several times, but to Dr. L.'s treatment she is indebted in a great measure for her recovery.

The patient vomited freely during the first night. At 8 a.m. her pulse was 120 and her temperature 99°, she complained of pain in her stomach which was relieved with bismuth and quinine. In the afternoon her pulse was still 120, and her temperature had risen to 101°. Face was pinched as if from impending dissolution. Gave 10 grains of quinine and repeated it in four hours. 17th. Appears to be better, pulse 101 and temperature
99°, had two hours of sleep during the night. Before my afternoon visit she had passed several clots of blood, but they were not examined carefully and may have been pieces of decidua. 18th. To-day passed gas from the rectum. 19th. To-day her clothing was changed, she seems to be worried and worse. 20th. A local peritonitis has developed in left inguinal region. Is vomiting a dirty-looking matter. Pulse has risen to 150, while her temperature is but 100°. Sent for Dr. Chenoweth. Patient cannot speak above a whisper. Gave her 10 grains of quinine and repeated it four hours apart. Was better in the afternoon. 22d. Dr. Chenoweth removed the stitches; wound appears to have united by first intention. 23d. Temperature 99°, pulse 120, abdomen swollen; is having large and offensive discharges from the bowels. 25th. Patient better, relishes butter-milk. There was but little change until after the fourth day from this time, when the discharges from the bowels lost their fetor. On the 31st she had an offensive discharge from the vagina which kept up for about a week, becoming less offensive after June 2d. On removing the dressings on the 10th, the wound was found to have sloughed and the integument separated. 11th, had a severe chill. 12th and 13th. no improvement. After this time there was a gradual but slow improvement until the 31st, when her left leg became painful and swollen to the knee. The swelling continued until the 25th, when it began to subside, but was not entirely free until July 4th. Convalescence is now established and the wound has healed. When I saw her last (September 1st), she was in the garden gathering grapes. She was still weak, but said that she was well and was gaining a pound of flesh a week.

RUPTURE OF THE UMBILICAL CORD DURING LABOR, WITH THE REPORT OF A CASE OF LACERATION OF THE ABDOMINAL WALLS IN AN INFANT.

By

DR. X. O. WERDER,

Pittsburgh, Pa.

October 4th, 1884, I was called to Mrs. S., a primipara who was in labor. The first stage progressed in a normal manner, and nothing unusual was noticed at the beginning of the second stage until the head was resting against the pelvic outlet. Though the expulsive forces were very active, the head did not advance. It was a left occipito-anterior position, the pelvis was roomy, and the head not very large, so that I could easily pass my fingers between

1 Read at the December meeting of the Pittsburgh Obstetrical Society.
the head and the pelvic walls. On external palpation, I could not
distinguish the position of the back of the child, nor were the
fetal sounds any more distinct on the left than on the right side
of the mother.

After waiting patiently for some time, I noticed the fetal pul-
sations becoming rather slow, and as I was considering the ad-
visability of terminating labor with forceps, there was some dis-
charge of meconium. I at once applied forceps and delivered the
head without having to use any undue force. But here there
was another pause; though even now the pains were good, the
shoulders were not born, not even rotation took place. An ex-
amination showed a large soft mass situated over the back of the
child, which could not be mistaken for anything else but a spina
bifida. Thinking that this was the cause of delay, I proceeded
to deliver the shoulders by traction on the head until they had
sufficiently advanced to enable me to pass my fingers into both
axillae, and rotating the body slightly and pulling with great
force, I suddenly heard some snapping sound, when the whole
body was expelled at once and quite spontaneously without any
further assistance. The child gasped a few times and then ex-
pired. The first thing that attracted my attention was a large
"spina bifida," almost occupying the whole back of the child.
But the most remarkable feature of the case was the condition of
the umbilicus. The umbilical cord had been torn away at its
umbilical attachment, and with it a large circular flap of skin,
perforating the abdomen and opening the peritoneal cavity, the
opening being oval and measuring about one-half inch in diameter;
through it the intestines protruded. Hemorrhage from the
cord was very slight. The placenta was expelled about ten min-
utes after birth of child. It was delivered by Credé's method.
A look at the umbilical cord explained the occurrence. It was less
than four inches long, and very thick and strong, having a circu-
lar flap of skin attached to its umbilical end, measuring over one
inch in diameter, the edges of this flap being bevelled.

This case is certainly very unusual, or better an unique one,
for I have not been able to find anything similar in the obstet-
rical literature accessible to me. Though really not a case of
ruptured cord, but of laceration of the abdomen, it must prop-
erly be classed among the former, as the cause producing the
accident is the same in either case.

In looking up the subject of rupture of the umbilical cord
during labor, I was greatly surprised to find so very little said
about it. Most of our popular text-books do not even men-
tion it, others again dismiss it with a few general remarks.
The subject, however, seems to me to be of sufficient impor-
tance to give it at least a passing notice. I will premise that
only rupture of the funis ante partum will be considered in
this connection, it being the most important to the obstetrician. Since we have abandoned the old method of delivering the placenta by pulling at the cord and substituted Credé's method, or some modification of it, rupture of the cord post partum has almost become a thing of the past, occurs now only in the hands of midwives and unskilled physicians, and is almost always preventable. Not so, however, in those cases occurring before the delivery of the child. The rupture may be partial or complete. By the first I understand a laceration of some blood-vessels of the funis, this itself remaining intact, causing hemorrhage and probably the death of the child. It most frequently occurs in cases of velamentous attachment of the cord, the latter being inserted in such a way that the blood-vessels are distributed to that part of the fetal membranes placed over the os uteri. When rupture of the membranes takes place, one or more of those vessels are necessarily torn, producing hemorrhage sufficiently severe to cause the death of the child and to become a source of weakness and possibly danger to the mother. The only hope for the child in these cases is rapid delivery. If we feel the membranes thickened and containing pulsating arteries, and veins as large as a goose-quill, then we may be certain that we have a case of velamentous insertion of the cord, then our first care must be to delay the rupture of the membranes as long as possible, at least until full dilatation has taken place. We will then be in the condition to deliver the child rapidly and in doing so possibly save its life.

The veins in the cord itself may also become ruptured, especially when traction is made on an unusually short funis. This, however, must certainly be of very infrequent occurrence, and probably never happens unless a diseased condition of these blood-vessels, especially of their vascular coats, exists. In this view I am confirmed by Cazeaux and Tarnier who, in their work on "The Theory and Practice of Obstetrics," say: "In such cases the rupture has doubtless been favored by an abnormal weakness in the vascular walls, and by the diminished resistance of the sheath that surrounds the vessels." This may even be produced before the rupture of the membranes, probably by the inmoderate movements of the fetus, where the cord is very short and the hemorrhage in such cases is called *intra-amniotic*.

The fragility of the umbilical cord has been doubted by some
authorities; at least in a discussion before the Société de Médecine Légale in Paris, M. Descourt denied the possibility of its occurrence, substantiating his opinion by a number of post-mortem experiments. This statement, however, met with considerable opposition, and M. Budin cited a very interesting case as proof that rupture of the cord was possible. A servant girl, eight months pregnant, before leaving her home for the purpose of going to the hospital, had a desire to go into a water-closet, but remarked nothing particular. On examination at the Maternité it was found that she was already delivered, at which she seemed to be very much surprised. The placenta had also come away and was found at the door of the hospital with the cord torn across. The child was subsequently found dead in the water-closet. There is certainly no doubt that complete rupture of the cord during labor can and does occur, though probably very rarely. The experiments of Spaeth, of Vienna, I think, prove this conclusively. He has demonstrated that 1776 grams, or about three and one-half pounds, in falling from a certain height would produce the same effect as eleven pounds simply attached to the cord. Five hundred grams may be sufficient, in falling, to break the cord, and very few cords can resist a falling weight of one thousand grams. He also demonstrated that a short funis breaks just as easily as a thin one; one with tortuous blood-vessels, however, easier than one in which the vessels run a regular and straight course. Pfannkuch confirmed Spaeth's results by recent experiments. Carl Brann's observations are similar to those of Spaeth's and Pfannkuch, and he says that in all cases of labor in which the full weight of the precipitating child acts on the cord there is not only a great probability, but almost an absolute certainty of its rupture.

The principal causes of complete rupture are, therefore, the birth of the child in the standing, sitting, or even kneeling position of the mother, whereby the child is directly precipitated to the floor; and great shortness of the cord. A cord less than six inches long may not only cause considerable delay in the birth, but its rupture very often becomes essential in order to permit the expulsion of the child. The rupture of the funis generally takes place about one inch (2 cm.) from its umbilical attachment, less frequently in the middle or near its placental in-
servation. The torn edges may be sharp as if cut by a knife, or ragged.

Cases have been reported in which a piece of the placenta was torn away with the cord; none, however, to my knowledge in which the abdominal cavity was opened at the umbilicus, as in my case. The hemorrhage from a ruptured cord is, as a rule, slight and not sufficient to endanger the life of the child, as the blood-vessels speedily retract, thereby stopping the bleeding.

There is one thing which, in studying this subject, has been a matter of very great interest to me, namely, the infrequency in which the placenta is detached in cases of rupture, or in cases presenting all favorable conditions for rupture. The placenta must certainly be subjected to a powerful strain, and it would seem to be so much easier to tear it away than to break the funis. Nevertheless, rupture of the funis is the rule, and separation of the placenta the exception. The reason of this, I think, is fully explained in the work of Cazeaux and Tarnier, who say, 762:—"But it appears to me that such a separation can scarcely occur from a mere dragging on the cord, because during the uterine contraction the placenta is strongly pressed by the womb externally, and the amniotic fluid internally, or, still more after the escape of the waters, by the body of the child. Now these parts must evidently react on the fetal surface of the after-birth with all the force of impulsion communicated by the contraction. Of course, the fetus can only advance, and consequently the tension of the cord can only take place under the influence of the contraction, and I repeat that, while it lasts, the placenta is moulded on, and forcibly pressed against the parts contained within the sac, and of necessity cannot be separated from the womb. I believe, therefore, that a separation of the placenta from a tension of the cord is almost impossible during the continuance of the contraction." A still rarer complication of such cases is inversion of the uterus. In fact, I could not discover such a case reported.

In the treatment of such cases, we are, of course, almost powerless. It is only when we have made the diagnosis of shortness of the cord, which cannot be done with certainty until after the head is born, by passing the hand along the anterior surface of the child until we have reached the cord, and when we have reason to fear a rupture, that we may take measures to prevent such a result. This we may accomplish by cutting
the funis and compressing the severed ends during the expulsion of the child—procedures, however, which are by no means easily carried out, and are of doubtful practical utility.

TWO CASES OF VICARIOUS MENSTRUATION.

BY

DE SAUSSURE FORD, M.D.,

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CASE I.—Floating Right Kidney, with Vicarious Menstruation by the Kidneys.—Mrs ——, aged 32, tall and slender, began her normal menstruation at the age of 14. Has two daughters, ages 10 and 8, and one son, age 2 years and 4 months. Has never had any abortions or miscarriages. Two years after birth of child, now 8 years old, she began experiencing spinal tenderness from occiput to sacrum, and four years after had an attack of acute nephritis, after which the vicarious menstruation began, and continued regularly until conception with last child, since birth of which she menstruates regularly. It appeared that, during the six years before the birth of last child, her husband and herself had resorted to measures to prevent her conception, and her spinal irritation developed to extreme spinal hyperesthesia, with hysterical attacks. The right kidney was discovered as loose about three years before last conception.

I prevailed upon her and her husband to allow conception, saying that it might act as an internal splint, for about six months, for the displaced kidney, and might have some effect upon the vicarious menstruation. She has not had any vicarious menstruation since the birth of last child, and experienced no pain in right kidney, still floating until six months ago; there is occasional manifest swelling of it, and always pain after walking. Her bowels are never constipated—usually a daily evacuation from them. Her appetite is excellent. At present there continues the exquisite universal spinal tenderness, which is occasionally bene

fitted by dry cups, electricity, and massage, but there have recently developed head symptoms, rush of blood to head with severe cephalalgia, this since birth of last child. During these attacks she is hysterical, imagining that she sees her own coffin, and remarks upon the details of her funeral, in short she is a confirmed invalid until some of the family become sick, when she runs up and down stairs (her husband has been obliged generally to carr

1 Read before the Southern Surgical and Gynecological Association December, 1888.
her up and down them, on account of pain in back and kidney), forgetting her aches and pains. 

The urine, examined very often during the interval between her vicarious menstruation, has never shown any traces of disease of the kidney, and since it has ceased there is nothing to indicate disease of those organs.

**Case II.—A Case of Vicarious Menstruation by the Lungs.—** Miss ——, aged 25, brunette, commenced normal menstruation at 15, and continued until she was 19, when she "caught cold" during the menstrual epoch. She has ever since, with occasional slight "shows" from the internal generative organs, regularly every twenty-six days experienced for three or four days pulmonary hemorrhages, sometimes abundant and exhausting, at other times more scant and for a longer period. When this first began, it was ushered in by violent hysterical convulsions, but for the past two years these have not occurred. Her lungs have been carefully and very many times examined during the intervals between the hemorrhages, and nothing abnormal has ever been discovered. During the past two years she has suffered with two pelvic abscesses which have discharged through the vagina, without surgical aid.

Upon vaginal examination, digitally and with speculum, nothing more than a virgin’s uterus is found, except that the channel through the cervical canal will not admit more than an ordinary-sized silver probe of the surgeon’s pocket case. At one time, two years ago, I introduced a sponge tent, but its dilatation ended in repeated hysterical convulsions, which were most alarming, and the operation has not been repeated. The patient is not emaciated; indeed, up to two months ago she was remarkably well, riding into the city and walking about the grounds of her home, when she sustained an attack of "continued remittent fever" (Sternberg) which lasted three weeks, but she is now up and interested in her domestic life. She is an orphan, and is supposed to be hereditarily predisposed to tubercular disease; but being an orphan, I have failed to be satisfied on this point. While thinking so, a distinguished friend was consulted in regard to normal ovariectomy, which he advised, but I did not coincide, believing that, if the operation was performed, it might stop the pulmonary vicarious hemorrhage, which seems to be innocent, and light up the heredity. I have been unable to determine the cause for the development of the two pelvic abscesses which, however, were preceded, for a week or more, by decided swelling in the ovarian region, as well as a doughy feeling in vagina, but still the vicarious menstruation goes on. Fearing ovarian or tubal disease, an operation has been urged, but to this she will not consent.

Her constipation will not yield to mild remedies nor to diligent massage, and only the most decided evacuants will suffice.

I had collected together some reports of similar cases, but
they cannot be found at this moment. It is rather surprising that there is so little literature upon the subject of vicarious menstruation—mere mention of the fact without going into the etiology. The fullest account of the causes of floating kidney can be found in Pepper's late classic encyclopedia. The patient who is so suffering will never consent to extirpation, so she must continue with all the train of nervous disorders which Pepper so intelligently depicts.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, November 29th, 1888.

The President, Dr. H. T. Hanks, in the Chair.

VARICOSITY OF THE PAMPINIFORM PLEXUS AS A CAUSE OF OVARIAN PAIN.

Dr. J. R. Nilsen presented an ovarian cyst which he had removed from a patient who had suffered such intolerable agony at and between the periods that she had begged to be relieved. There seemed to be some connection between the violence of the pains and the enlargement of the neighboring veins. One very interesting point in connection with the specimen was, that it was found adherent to what felt like a Fallopian tube, but which proved to be the vermiform appendix, which seemed to be filled with a gritty substance. The adhesions were broken up, and it was dropped back.

The President.—Dr. Nilsen probably desires to do another laparatomy for typhlitic abscess.

Dr. Nilsen.—I did not drop it back with this expectation; but it had been quiet so many years that I thought it could safely be left. I found in both broad ligaments distended veins which were perfectly enormous.

Dr. Dudley.—Was the uterus displaced? To what does the doctor attribute these enlarged veins?

Dr. Nilsen.—The uterus was enlarged, but not displaced.

Dr. Grandin.—Probably the uterus had sagged down into the pelvis, and this interfering with the circulation, there had resulted congestion and thence the varices.

Dr. Dudley.—Were the adhesions of such a character as to bind the ovaries in place?
DR. NILSEN.—I found only slight adhesions of the vermiform appendix to the tube.

DR. GRANDIN.—What were the contents of this cyst, and what was the chief symptom calling for removal? The pain spoken of would suggest a dermoid cyst.

DR. NILSEN.—The contents were perfectly clear, with no resemblance to that of dermoids.

DR. DUDLEY.—I have no remarks to make, except that the doctor knows I am interested in enlarged veins. It seems to me, although the diagnosis was not made, that this was a typical case where the question could be raised: Were the varicose or enlarged veins an antecedent or the result of the inflammation? These inflammatory conditions are of the same character as in epididymitis. Was there a laceration of the cervix? (Answer: Quite extensive.) I am saving all specimens of this character, because I am sure a large proportion of the cases called salpingitis are nothing but dilated veins, and that the peritonitis which afterwards originates is the result of exudation through the veins and deposits, followed by inflammation.

DR. GRANDIN.—Will Dr. Dudley hold that this condition applies to peritonitis accompanying pyo-salpinx?

DR. DUDLEY.—No, that is septic, or due to the escape of some of the contents of the tube through the fimbriated extremity.

THE PRESIDENT.—The very fact of having varicose veins in the round ligament will be an apt explanation of the intense pain the woman suffered. Any one who has suffered from varicocele will know the pain; the condition causes the same pain in the female as in the male.

DR. NILSEN.—I have looked for this condition in quite a number of laparatomies and have not found very large varicoceles. I never saw one as large as this one.

DR. GRANDIN.—Will Dr. Dudley state in what proportion of cases he has found this condition?

DR. DUDLEY.—My attention has only been called to it a few years ago, and I have not seen many.

DR. GRANDIN.—I would only expect it if there was sagging of the uterus, or other cause of great pelvic congestion.

DR. DUDLEY.—That would not follow. There are no valves to the veins, and even obstruction to the portal circulation or a full rectum may cause dilatation. Band-like adhesions over the pelvic brim would have the same effect. In the majority of cases, the varicoceal condition has been on the left side, where we know the renal vein enters at right angles to the blood-current.

DR. COE.—I do not wish to say much at present, as I am preparing a paper on the subject; but I do not quite agree with the gentlemen. The conditions are not the same as in the male, where there is no local increase of blood in the pelvis. The blood supply is most variable in cases of fibroid tumors, where we have immense enlargement of the veins. Varicocele is a permanent dilatation; we cannot call cases where the veins are simply enlarged varicocele. In doing so, we are drawing to a certain extent on our imagination. The whole broad ligament is so full of nerve-plexuses, and pelvic pains are so indefinite, and due to so many different causes, that it is rather bold to say that pain is simply due to enlargement of the veins.

DR. DUDLEY.—Do you find the veins thicker in varices?

DR. COE.—True varicocele means permanent dilatation.
Dr. Nilsen.—Dr. Coe remarks that there is no local enlargement of the veins; where the tube is diseased, and poisonous, acrid discharges pass from it, far out upon the broad ligament, there causing inflammatory thickening, impeding circulation, I can readily see how pyo-salpinx might cause distention of the veins. I have looked for this cause very carefully.

The President.—Any vein, wherever it is located, when the blood is not moving on, always causes more or less pain. I should judge from my experience that the pain from which the woman suffers might be caused by pressure from above, a torpid liver, or sometimes a full rectal pouch. I am willing to acknowledge that there is difference in the structure of the veins; I am certain that it is quite frequently the overdistention or engorgement which causes the pain.

Dangerous Juniper Catgut.

Dr. Nilsen.—I desire to show to the Society this catgut, with a note of warning; I have used it lately in three simple cases, and each of them suppurated; in the fourth case, I employed catgut prepared by myself, and there was no trouble. This sample of catgut is preserved in oil of juniper berry, to which I attribute the result. All catgut should be treated with the oil of the juniper wood, not of the berry.

Dr. Coe.—Was the catgut old?

Dr. Nilsen.—No; it was bought as freshly prepared.

Dr. Coe.—I have had the same accident happen to me—sloughing in simple cases, which I attribute directly to the catgut. It ought to be prepared by soaking for eight days in oil of turpentine, and then be placed in ether.

Dr. McLean.—I have had more suppurated from catgut than from any other suture material I have used.

Dr. Grandin.—Up to recent times I have satisfactorily used juniper gut in plastic operations; I do not know whether the oil was prepared from the wood or the berry; I have seen it unabsorbed fourteen days after operation, and I have dispensed with wire almost entirely. Lately I have used silkworm gut and am well satisfied with it. There must have been some inherent germs in Dr. Nilsen's catgut.

Dr. Boldt.—I have never seen suppurated due to catgut, and fully agree with the views expressed by Dr. Grandin. I do not like the looks of the catgut presented by Dr. Nilsen.

Dr. Dudley.—I reported five cases two meetings ago, in which I used Am Emde's catgut, and every one suppurated. At the time I attributed it to other causes; but, judging from Dr. Nilsen's experience, I suppose the catgut is responsible. I have done an operation since which has suppurated. The peritoneum healed kindly, but the cellular tissue and skin in every case broke up.

Dr. Boldt.—If catgut is boiled in 1:2,500 sublimate solution in alcohol, then treated three or four times with fresh alcohol, and immersed in solution of juniper berry oil and alcohol and sufficient bichloride of mercury—1:5,000—such catgut will cause no suppuration.

The President.—I think we have sometimes suppuration in the abdominal wound which cannot be laid to the catgut. I have seen a number of cases where other material has been used; I have employed silk-worm gut, and have seen it followed by suppurat-
VAGINAL HYSTERECTOMY FOR EPITHELIOMA CORPORIS UTERI.

Dr. H. C. Coe presented for Dr. Hunter the specimen from the case referred to at the last meeting—a typical case for vaginal hysterectomy. The patient made a rapid recovery. The epithelioma was strictly limited to the body of the uterus. The patient was 51 years of age; she had no pain until she came into the Cancer hospital. He had never noticed any odor to the discharge, nor any hemorrhage while she was under his observation. It was a question whether it was malignant disease. The dull wire curette brought away soft brain-like material, thus settling the diagnosis. The broad ligaments were secured on each side with Richelot's forceps which were removed in forty-eight hours. No sutures were introduced, the wound being left open and healed by granulation. The patient had no more trouble than after an ordinary cervix operation. An interesting point about the operation was, that the disease was absolutely limited to the uterus; there were no metastatic deposits. Although this woman showed no signs of deposits, we cannot always be sure that the patient is free from them. In the other case reported for Dr. Hunter at the last meeting, both lungs were full of secondary nodules. We are accustomed to associate cachexia with cancer of the uterus; this patient showed no evidence of the serious condition in which she was. We are often much deceived by the general condition, although the patient may be in the last stages of epithelioma. In another case I introduced the curette and obtained similar material and found it was simply fungosities. The question I would raise is, whether in advanced disease of the uterus, in which there is very slight hemorrhage, no foul discharge, no characteristic appearance, there is any means to decide the nature of the case.

Dr. B. Emmet.—We are apt to be off our guard in these cases; I have seen some where there was no symptom until the occurrence of a large sudden loss of blood. The hemorrhage was the one symptom which led to the recognition of the disease. I have seen cases without any cachexia. I have not had my attention sufficiently closely upon them to differentiate the pain. I can well understand if the disease is in the fundus, there may be pain, similarly as in fibroid.

Dr. Byrne.—I would only remark about the point mentioned by Dr. Coe as regards cachexia and the absence of discharge characteristic of these intra-uterine carcinomata. I have seen quite a number of cases of intra-uterine cancer of the character shown in the specimen, and I have been repeatedly struck with the fact that in many of them there is not only no cachexia, but
nothing to indicate that serious organic trouble exists, except hemorrhage. With regard to the pain said by nearly all authors to be almost characteristic of intra-uterine carcinoma, it is not borne out by clinical experience. There is no more pain in intra-uterine carcinoma than in other cases. I have had a case in point within the last six weeks, a young unmarried lady, aged 26, who had had several protracted menstruations amounting almost to hemorrhage, for which she consulted a physician who sent her to me. I made an examination: she was remarkably well developed, of florid complexion, had no pain nor menstrual pain; but she was anxious, as an aunt had died from carcinoma. I introduced a curette, and had no doubt within a few minutes of the existence of carcinoma in an advanced stage. She was operated on about five weeks ago; the entire uterus was full of this soft, brain-like material. She has done very well. This is one of a number I have seen. The pain so much spoken of by some authors, both old and recent, is purely fictitious. I know it does not exist; there is no more pain attending them than in any other form of carcinoma, and I have seen a large number.

DR. H. D. NICOLL read a paper entitled:

A CASE OF PHANTOM PREGNANCY; WITH REMARKS.

Mrs. —, 28 years of age, began to menstruate when 17 years old, and her periods have always been regular. She has been married for two and a half years. Her first confinement took place on August 31st, 1887, at the end of a normal pregnancy, she having crossed the Atlantic ocean twice with no discomfort whilst pregnant. The labor was powerless and was terminated after twenty-four hours by the application of the forceps, severe and prolonged traction being required to accomplish the delivery of the child. The perineum was torn almost to the sphincter ani; the child was still-born. The mother’s disappointment at the loss of the child was great. She was the subject of marked depression of spirits throughout the period of child-bed. I saw her for the first time three weeks subsequent to the confinement, being requested to examine the perineum with reference to an operation. The laceration was pretty well healed. The cervix had been lacerated also, but not badly. Her depression of spirits was most noticable. She was very anxious to know whether there was anything in her condition that might prevent her from becoming a mother. As soon as she was able to return to her home, she was brought to New York and came under my care. She menstruated regularly on September 29th, on October 26th, and on November 25th. Meantime she had regained her usual good health and spirits. On January 10th of this year, she came to see me and stated that she had missed her December period, that she had been troubled with nausea in the morning for a fortnight, and she believed that she was pregnant. On the 4th of February I was called to see her, she having been taken in the night previous with pain in the back and a slight bloody discharge from the vagina. The cervix was felt to be rather larger than normal, was
soft; the os was somewhat patulous; the areola about the nipples was dark. I assumed that she was pregnant, but said to her that this could not be asserted positively. The vaginal discharge lasted for several days, but was not equal in amount to the quantity of blood lost at a menstrual period. I supposed that a miscarriage had been averted. No discharge of blood from the vagina appeared after this. A little later the breasts began to enlarge, in June a milk-like secretion was noticed in them, which continued present throughout the summer. The nausea ceased after a time. The abdomen commenced to increase in size and steadily grew apace with the breasts and other developments. During the latter part of April she felt life. The husband informed me later that his attention was frequently called to this sign and he repeatedly had felt the motions of the child. Everything promised fair for the confinement which was expected to occur early in September. My patient went to the country in June and reported from time to time that everything was progressing normally. I was not able to be in the city in September and had requested Dr. Partridge to take charge of the confinement, assuring him of the good condition of the patient. I called to see her on the 25th of August in order to be quite certain that all was going on well. Although the abdomen was very large, its outline was not that usually seen at the full time, and I requested permission to make an examination that I might satisfy myself in regard to the situation. The instant I touched the cervix, it was apparent that the uterus contained no fetus, at least no fetus near term. My first thought was that she had miscarried in February, when the show above referred to had appeared and most ill advisedly I gave expression to this thought. I have rarely seen a more distressing spectacle than was presented by this poor lady during the next half-hour. At one moment she was overcome by her grief, then she would stoutly maintain that she was pregnant, declaring that she could not be deceived by the signs of life, and insisting that I must recognize the movements of the child. She threatened to destroy herself, exclaiming that her grief in having her hopes of motherhood taken from her and her mortification would kill her, and she utterly refused to be comforted. Again and again she asked me why I had allowed her to go in the country without examining her and thus have spared her all the sorrow and disappointment she would now have to endure. I confess I was unable to answer this question in a manner satisfactory to myself. I believe that I most certainly ought to have so examined her.

In reporting this case, my object is not so much to record an instance of phantom pregnancy (although I think such cases as fully developed as this one are unusual), as it is to direct attention to the importance of making a thorough, and if need be, repeated examination of every woman who comes to us supposing herself to be pregnant. In this case no rational symptom of pregnancy
was lacking: if ever a physician might seem to be justified in accepting his patient's opinion, this was such a case. The patient was an intelligent woman, she had recently gone through a normal pregnancy, there was no motive for her to practise deception. I had examined her just after the completion of the second month of the supposed pregnancy and had found present the conditions usually noted at that date.

In 1868-69 I was a private student of Dr. Charpentier in Paris, who was then Prof. Depaul's chef-de-clinique. He taught his students the importance of examining each patient supposed to be pregnant as soon as she came under observation. It has been my habit to act in accordance with this teaching. In the present instance, however, this instruction was so imperfectly carried out that my patient was subjected to a most painful disappointment, which might have been avoided. This she made me realize keenly by her most reasonable question in regard to my failure to examine her before she left town for the summer. I have asked many of my friends in New York as to their practice in regard to the examination of patients prior to the time of labor. I think it is a fair statement that a majority of them, at least, state that, unless some special reason exists for this procedure, no preliminary examination is attempted.

I have been looking through many of the text-books on obstetrics to learn what value attaches to this question. In the older books I have found nothing upon the subject. Playfair, Simpson, Tyler Smith, Cazeaux, Barnes, and Leishman do not mention it.

Lusk ("The Science and Art of Midwifery," p. 107) says: "Patients, by their statements, may in perfect good faith lead the physician into error; or, when they have an interest in practising deception, may deny the existence of incriminating symptoms altogether. It is therefore often necessary to supplement the testimony of patients by the evidences to be obtained by a clinical examination. Ordinarily the vaginal touch suffices."

Parvin, in his book on obstetrics, p. 179, says: "The practitioner who will avoid diagnostic error as to pregnancy must faithfully interrogate all the changes, both organic and functional, in the maternal organism, and those which are caused by fetal development; he must be patient, thoroughly painstaking in his investigations, not hasty, partial, and superficial; he must be willing to delay his decision in all doubtful cases, rather than run the risk of a happy guess, or trust an average of probabilities." On p. 220, he says: "Few women, if a proper explanation be made, will object to an external examination made in pregnancy for obstetric diagnosis. Certainly such examination is advisable in most cases; and in some, where there is the least suspicion of an unfavorable presentation, should be insisted upon. Moreover, if the history of previous labors indicates any pelvic deformity, or there may be
other reasons for suspecting this condition, the examination should not only be external, but internal also."

Spiegelberg ("Text-book of Midwifery," translated by T. B. Henry, M.D., 1887) says, Vol. I., p. 140: "The obstetrical examination must always be preceded by an interrogation of the woman. . . . The examination itself may be divided into the external and the internal. Both are equally important, but the external gives the most information and should for that reason always precede the internal." Nothing is said in regard to the advantage and desirability of always resorting to it.

The "Cyclopedia of Obstetrics and Gynecology" (Vol. I.), a practical treatise on obstetrics, by Dr. A. Charpentier, 1887, gives the most intelligent and reasonable advice upon this subject of any of the works I have seen. He devotes many pages to a discussion of the subject, going carefully into the details, and giving full directions as to the best method of practising it. He says, p. 310: "The next point is to ascertain the fact of existing pregnancy and the stage of utero-gestation already reached; . . . the physician proceeds to the direct examination of the patient, which should be made early, if the woman has already had difficult labors, or if one suspects her pelvis of being deformed. . . . This examination should only be made when absolutely indispensable, at as late a date as is compatible with safety, and in the presence of the mother or of the husband of the woman. . . . It is the accoucheur's duty to explain the necessity of more careful examinations, and then, to undertake them with all the consideration, propriety, and gentleness possible. . . . If, however, the interests of mother or child demand the repetition of the examination, the accoucheur must himself request it, since it alone can prepare him for the assumption of entire responsibility."

I believe that every physician, in assuming the case of a woman supposed to be pregnant, should regard it as his duty, in the interest of his patient and in the proper fulfilment of his professional obligations, to ascertain, not only the fact of the existence or non-existence of pregnancy, but also to obtain a knowledge of all the data bearing upon the size of the pelvis, the condition of the soft parts of the mother, and the position of the child—information which can be acquired only by careful and painstaking, and in some instances repeated examinations, both external and internal.

Dr. B. McE. Emmet.—I have met with but one case of supposed pregnancy, where the movements were quite deceptive; they had their seat in the recti muscles and were very similar to those of the fetus. The woman was with great difficulty persuaded that there was no pregnancy.

Dr. McLean.—I wish to indorse what Dr. Nicoll has said. I discussed this subject in the paper I read recently before the Society. I thought I was alone in the practice of examining women
Transactions of the

over much. I know in one case, in advancing this principle, I was almost ridiculed by an older practitioner. My reply was, I would not have in my list any woman who would not submit to proper examination. I generally tell my patients to come back in the fourth month; that is the practice I have always followed.

DR. NILSEN.—I can only indorse Dr. McLean and Dr. Nicoll's views. I have found few, I might say no, women who would not submit to an examination, especially primiparas, who want to be sure of being pregnant; older patients, who have had experience, know all about it. I particularly request them to come back at about four and a half months, and never commit myself absolutely until I hear the fetal heart.

DR. JACOBUS.—I have had one or two cases of phantom pregnancy; one of them a primipara. She was very large when I first saw her, and looked like a woman who was eight months' pregnant; she had morning sickness, but would not submit to an examination, even as time advanced. This was in March, 1884; suddenly in June she became small, and in July she menstruated. I do not know what was the matter with her. Another time she engaged me again, and after eleven months' amenorrhea had a child in June, 1885. I saw a patient to-day; she has not menstruated in thirteen months; she had had a fall and ceased to have movements or morning sickness, yet she has had no miscarriage. I had seen her in August or September, and saw her again to-day; she is very well and has no morning sickness. The areole are rather dark, and the uterus now is about the size of a woman three or four months pregnant, the cervix is soft and slightly blue. It is not extra-uterine pregnancy; I have examined her and thought she was pregnant, though I did not hear the fetal heart, but there is rather undue pulsation at the base of the broad ligament. [This case miscarried a few weeks after the report. The fetus was macerated, and had been dead several months.]

DR. FRUITNIGHT.—As to the physical evidence of pregnancy, Gooch said, "Believe women's bellies rather than their words." This includes examination. It has been my habit to make examination at intervals to assure myself that everything goes on right. I can recall two cases of imaginary pregnancy; one was a woman about 45 years of age who had not menstruated for over a year; she had felt life, had nausea, pains in the breasts, and was confident she was pregnant, although in her thirteenth month. I told her she was entering on the menopause. She consulted an irregular practitioner who coincided in her belief, and who put her to bed and showed her a child as her own, and in this manner overcame her superstition. She came back at intervals until at last I lost sight of her. Another case I saw the past year, a woman of about the same age and with the same history. I found the uterus and abdomen quite large, but nothing pointing to pregnancy; yet she had made all her preparations for delivery. I have lost sight of her also. I know of another case in the practice of the late Dr. Carreau, who was sent for after about nine months. The patient discharged a large amount of flatus, and that was the end of her presumed pregnancy.

DR. GUNNING.—While I was interested in comparative anatomy I saw the same thing in a slut, whose belly enlarged and she prepared her nest, but never littered.

DR. VON RAMDOHR.—I have seen a couple of such cases; one was a woman whom I did not examine at all, who told me she was "in
the family way." She was about 36 years old and called me at
the termination of nine months, when she told me she had labor
pains. I examined her then and found there was no reason for
the belief; she admitted that she had menstruated regularly. The
second case was that of an elderly newly married woman about 35
years of age. I had examined her at the beginning, and had con-
sidered her pregnant. On examining her when I was called at full
term, I found no fetus. She then told me that she had flooded at
the third month, and I suppose she then aborted. The first woman
was confined by me a year later. The first case showed
me the value of one, the second the value of more examinations
during pregnancy, quite apart from the benefit the patients may
derive from the early discovery of a deformed pelvis.

Dr. Boldt had had a similar experience.

Dr. Abbott.—There is one point that has not been touched upon.
I have seen two cases where the doctor had even failed to make
any examination whatever; he was called in at the last moment,
and either he or Dr. Hanks had to deliver the woman by Cesarean
section. Another case I saw with Dr. Boldt; a tubal cyst had
broken and formed an hematocèle in Douglas' cul-de-sac. We can-
not always examine the patient; the family may live a way off,
and about once in two or three years suddenly send word that the
wife is going to be confined. In such cases examination is im-
possible, but, as a rule, I always examine my patients.

Dr. Dudley.—I have only seen two cases. From what I have
read and seen, the women are usually from 35 to 45 years old with
fatty accumulations. In one of the cases I have seen, the woman
simply laughed at me when I told her she was not pregnant. She
had been the mother of several children and would not submit to
examination. After that consultation she had four or five children,
but at that time her uterus was smaller than normal. The second
case is travelling about the city now to find some one to tell her
she is pregnant. She has a rapid deposition of fat and waddles
when walking.

Dr. Grandin.—I have seen only one case of the kind which has
no features of special interest. My experience has rather been to
persuade patients, in the early months, that they were pregnant
when they claimed they were not. In regard to the necessity of
a careful physical examination of every woman before confine-
ment, when possible, I can only indorse Dr. Nicoll's views. Thus
we avoid falling into the error which he did, and thus we are in a
position to do the best possible for both the mother and the child.
Palpation and the bimanual should be matters of routine, and
none of my patients have ever objected to either.

The President.—I remember one case, the most typical one I
have seen, a patient of the late Dr. Jerome Smith, and who sub-
sequently removed to Chicago. Her menses had ceased and she
thought she was pregnant. A physician made an examination
and allowed her to continue in that belief. She had every symp-
tom as the patient described them. She came to New York.
When the time arrived for labor, she sent for Dr. Smith. Regu-
lar labor pains were present. On making an external examina-
tion, he did not find the hard tumor he expected if it were nor-
mal pregnancy and desired a vaginal examination. I was sent
for. The vagina, however, was so hyperesthetic that she would
not submit and had to be anesthetized. The uterus was found
empty and only two and a half inches in depth. In another case,
the patient had been married twenty-seven years; she had been pregnant but once and carried the fetus only one and a half months, when she miscarried. Six years later she ceased to menstruate and consulted Drs. Mundé, Barker, Thomas, and two or three other physicians. The first of these gentlemen said she was not pregnant, and he was right. She was a rich Jewess who ardently desired a child. She went on for two or three months more, when it became evident that she was not pregnant, and the case passed off like all phantom pregnancies. She consulted me two years ago, before I went to Europe. She told me she felt very different from what she had done at any other time, and I thought she was pregnant, not being aware at the time how her vagaries were looked upon by her relatives. When I told her she was, she was very happy. I asked Dr. Talbot to examine her, and he was also convinced of the fact. I requested him to look after her in my absence. Just before I left, her sister came to me and upbraided me for encouraging her in her delusion. When I returned from Europe, Dr. Talbot told me that she was really pregnant, and at the proper time she was delivered of a ten-pound child. It is always well to make an examination; we cannot be too careful with these women who are anxious for children.

Dr. Nicoll, in closing the discussion, said: In regard to the remark made by Dr. Jacobus, I would add that the patient had taken on a large amount of fat, had increased in weight, with a certain amount of distention of the intestines with gas. Dr. Partridge saw the patient with me.

A CHILD CRYING IN UTERO.

Dr. McLean reported the following case. In August last, I was called to see Mrs. S., æt. 30, in labor at term with her fourth child. The waters had escaped, and while rectifying a malposition of the head by the insertion of the hand to the pelvic brim, atmospheric air was admitted to the uterus, and the child commenced respiration and crying in utero. The occiput was turned forward. While I was applying the forceps, the child was crying lustily, the voice sounding as if coming from the cellar. Others heard it, and it was curious to note the consternation in their faces. This crying was kept up for about four or five minutes, when delivery was safely accomplished. The mother and child did well. The air was expelled with the secundines. I have never known such a thing to occur. The case is entirely different from those cases frequently seen of spasmodic cries while the child's head is in the vagina; the head was in the uterus and in fact slipped away from my hand several times, crying all the time. This phenomenon was witnessed by Dr. Tracy and the nurse present.

SPONGES SHOULD BE IN THE CHARGE OF A SPECIAL NURSE DURING LAPARATOMY.

Dr. H. C. Coe related the following case: During a recent supra-vaginal amputation of the uterus for fibro-cyst, the patient had lost much blood, and I was anxious to finish the operation quickly. While I was closing the peritoneum very carefully, the nurse said
she could not find one of the sponges; she was sure it had been left in the cavity. I reopened, searched thoroughly, and was equally sure it was not there. I had closed the wound, and again the nurse insisted she could not find the sponge. We went over the sponges time and again, looked over everything, but could not find the missing one. I reopened the wound and made another search, when the sponge was found in a pail. This case illustrates the fact that it is well to have a nurse who does nothing else but look after the sponges.

UREMIA AFTER THE ADMINISTRATION OF ETHER.

Dr. J. R. Nilsen reported a case as follows: On Friday last I did a small plastic operation under ether. The patient was progressing well, until Monday morning, when she was found lying almost dead in bed. The house physician, Dr. Burwell, to whose readiness she owes her life, and the nurse worked heroically over her: her feet were put into a hot mustard bath; brandy, camphor, and ether were injected under her skin, and she is doing well today. During the operation her heart's action was weak and intermittent, therefore I worked rapidly. The urine had been examined, at least the assistant house surgeon reported that all members of the staff said it was all right, it had been examined and found perfectly normal. I examined it to-day and found it almost choked with hyaline casts. This is the first patient I have seen brought to, after having gone so far. Whenever the woman was gasping, the nurse slapped her and told her to fill her lungs. I never saw a physician and nurse work as they did. This is one more argument against ether and in favor of chloroform. I have seen no death from chloroform in my own practice or among my friends, but I have been personally acquainted with doctors who had deaths after giving ether, even in small amount.

Dr. B. McE. Emmet.—I doubt if this case was due to ether, the alarming symptoms appearing after three days, and it seems to me it is just as much heart failure, as far as the collapse goes, which would be the cause of the coma. It needs very careful and close determination to trace it to the ether, where the late examination shows hyaline casts.

The President.—What medication was given?

Dr. Nilsen.—Jaborandi hypodermically, chloride of ammonium, twenty grains every hour; later, carbonate of ammonium every two hours was substituted; also chloride of iron. In fact we did so many things, I hardly know to which to attribute the recovery. Her pupils were pin-hole in size and are still very small; only this morning they commenced to respond to light.
TRANSACTIONS OF THE OBSTETRICAL
SOCIETY OF PHILADELPHIA.

Thursday, November 1st, 1888.
DR. T. M. DRYSDALE in the Chair.

DR. L. J. HAMMOND reported a case of
PYO-SALPINX.

N. J., aet. 22 years. Had one child three years ago. Since that
time she has not felt well, having frequent attacks of pain in the
pelvic region, confining her to bed for weeks at a time. About
nine months ago she had a hemorrhage from the uterus lasting
three weeks, followed by a purulent discharge, with severe pain
and great tenderness of the abdomen, especially low down, neces-
sitating her remaining in bed two weeks. After this time she re-
sumed her occupation, that of a laundress, until four weeks ago,
when the pain became so intense she was again obliged to go to
bed, where she remained one week without attendance. At this
time I found her with a temperature of 100°, pulse of 120, abdomen
tympanitic, and so very tender she could not bear the weight of
my hand upon it, together with menorrhagia. Digital examina-
tion was deferred until the next day, owing to the great disten-
tion of the bowels with feces, which naturally increased the pain.
Upon examination per vaginam, I found a uterus very much en-
larged and bound down firmly posteriorly, together with a large
boggy mass on the right side, which was very sensitive to touch.
An immediate operation was advised, but was delayed, owing to
the absence of relations, until October 18th, when, with the assist-
tance of Dr. J. M. Baldy, the abdominal cavity was opened, and a
large abscess, with pyo-salpinx, was removed from the right side,
with great difficulty, owing to extensive adhesion. Several small
pus pockets were ruptured during the removal, and about an
ounce of pus was discharged. The left ovary was not removed,
it being apparently healthy. After thorough irrigation a glass
drainage-tube was inserted, and was replaced on the fourth day
by a rubber one, which was removed in twenty-six hours. It is
to-day just two weeks since the operation, and the patient is well.
At no time did the temperature rise above 99 ½°.

Dr. J. M. BALDY said that it had been stated in the Society by
a member that he had never seen pus in a tube primarily. The
specimen presented was interesting in that connection, as there
had been pus in the tube as a primary condition. There was no
pus present then, as the specimen had been cut open and had been
for a long time in alcohol. There were two sacs in the ovary; one contained pus, and the other a blood-clot as large as a walnut.

Dr. M. Price, in answer to a question, whether the matter contained in these abscesses was really pus or not, said there could be no question but that it was pus. He was quite sure that it had been examined under the microscope.

Dr. B. F. Baer thought that he was the culprit referred to by Dr. Baldy. In the discussion of this subject before the Society last winter, he was reported as having made the above statement, but he had been misunderstood. What he really did say was that in his experience primary pyo-salpinx was a rare disease; that in the uterine appendages which he had removed the condition was an inflammatory one, involving the tubes, ovaries, and pelvic peritoneum, which had resulted in gluing or matting together the organs, but that he had failed to find pus contained in the tubes and nowhere else; that in the pus cases with which he had met there was a condition of abscess in which it was difficult to tell whether the disease had originated in the tube, in the peritoneum, or in the cellular tissue, so extensive was the destruction of the tissues and organs in these cases. It would be a very sweeping statement to say that primary pyo-salpinx never occurred, and he did not wish to be misunderstood as making it. His experience during the past year confirms the views which he then expressed.

Dr. Hammond said there was no question about there being pus in the tube. The tube was larger than his thumb, and thoroughly distended with pus.

Dr. Geo. Boyd exhibited a

MULTILOCULAR OVARIAN CYST.

The ovarian cyst which I have to show, in connection with the short history of its growth, I think is of some interest.

Mrs. D., age 27 years, primipara, I was called to see early last July. I found her advanced in pregnancy. She seemed well with the exception of the fact that both legs were edematous. They had caused her some alarm. The urine, by analysis, being excluded as a cause of the swelling, it was attributed to venous obstruction by pressure. She fell in labor August 7th, and with an easy delivery gave birth to a female infant weighing eight pounds. I applied the binder, as is always my custom. The uterus was well contracted, its outline regular. There was no evidence of any tumor. On the eleventh day she was out of bed and about doing her household duties, feeling well, although the lochia was greater than it should have been. At the expiration of two weeks I left her doing nicely. September 19th, about three weeks after my last visit, I was called again to see her. She stated that she was losing blood, and also that the stomach was swollen. She complained of pain in the left ovarian region. An examination showed a tumor the size of the uterus at the third month of gestation. It occupied nearly a central position, more to the right of the median line, on the opposite side from where she complained of pain. In three weeks more it had attained
twice the size, and showed marked fluctuation. Dr. Noble saw the case with me, and together, after a careful examination, we diagnosed a thin-walled cyst (ovarian or ligamentary). It con-
tinued to increase in size very rapidly, and now was above the umbilicus. The pain she complained of was growing more severe, and she was losing flesh. October 15th, a little more than two months from her lying-in, with the assistance of Drs. Kelly and Robb, I removed the growth. The operation was of no unusual interest; the cyst was tapped and delivered; there being no adhe-
sions, and the tumor having a good pedicle, it was easily removed. It sprang from the right ovary. The patient has made a good recovery. Her temperature was at no time higher than 99°Fahr. So little was the shock that at the end of the first week the baby, who had been nursing, was returned to the breast. The points of interest in the case are these: 1st, her ovarian tumor not compli-
cating labor; 2d, the operation performed during lactation; 3d, an 
avarian cyst containing nearly a gallon of fluid still remaining unilocular.

Dr. Wm. Goodell gave the history of a case of 

DOUBLE INTRALIGAMENTARY CYSTS.

The woman, æt. 30 years, had been infected with syphilis, from which she had suffered, with constitutional symptoms. Two tumors had been discovered a year ago. Her health had failed rapidly, and edema of the upper and lower extremities was pres-
ent. The womb was so closely adherent to the tumors, and they were so immovable, that a diagnosis of one multilocular intraliga-
mentary cyst was made. At the operation performed at his pri-
ivate infirmary, October 15th, an intraligamentary cyst of each 
avary was discovered, which demanded long and difficult enucle-
ation. They were both extirpated without leaving a pedicle behind. The broad ligament capsules, being thin, were torn in shreds. These were trimmed and tied, and many bleeding vessels were secured. Deeply seated oozing from vessels which could not be reached was thought to be controlled by Monsel's solution. Two other small cysts were now discovered, apparently wholly independent of the ovarian cysts. As they were too deeply seated and too adherent to the rectum on one side and the cecum on the other, they were not removed, but were freely incised and cleansed. Many intestinal adhesions had also to be severed in the removal of the larger cysts, which weighed approximately ten pounds on the left side and five on the right side. After careful and repeated flushings of the abdominal cavity, a large drainage-
tube was put in. Within two hours serious hemorrhage took place, and much blood escaped out of the tubes; but as it gradu-
ally grew less the wound was not reopened, and in twelve hours it ceased. Five days after the operation, when Dr. Goodell was about to take out the tube, high fever set in, preceded by chills,
and the tube was therefore not removed. On the next day a deep-seated abscess burst, and its fetid contents escaped through the tube, poisoning the air of a large room for several days. Later a rubber drainage-tube was inserted. Two weeks and a half have now elapsed since the operation, and the woman is doing well; that is to say, her temperature and pulse are natural, and the abscess has nearly healed up, but her convalescence is retarded by a diarrhea of long standing, which he attributes to specific disease of the intestines, for which he is giving potassium iodide. He has never heard of a surgeon being infected by syphilitic virus during the performance of ovariotomy, yet he did not see why such an untoward result might not happen; and during and after the operation he was careful to cleanse his hands thoroughly and repeatedly with a sublimate solution. Indeed, for several days after the operation he was quite uneasy about himself, lest he had been inoculated.

Dr. Goodell also showed an

**OVARY WITH TWO PUS CAVITIES**

from a young girl, 22 years old, which he had removed. No history of peritonitis could be elicited, yet the pelvic cavity was crossed and recrossed with bands of adhesion as tense as fiddlestrings. Many of these pelvic bands and adhesions of the ovary proper had to be broken during the operation. The right ovary could not be discovered anywhere, although very careful search was made by both Dr. Goodell and Dr. W. L. Taylor, and although the pelvic floor was pushed up by the hand introduced into the vagina. A small body as large as a bean, which was possibly a rudimentary ovary, was felt in the right broad ligament; but it was so obscured by organized exudation and fastened down by adhesions that no effort to remove it was deemed proper. All the pain was referred by the girl to the left ovary. Dr. Goodell thought that in this case the lesions had come from some exanematic disease of childhood, or from latent peritonitis, just as adhesion bands are often found in the pleura, when no history of pleurisy can be found. The girl in this case was a virgin, and he felt very confident that gonorrheal infection could be excluded. Owing to a constant oozing of blood the drainage-tube was kept in for eleven days, a rubber one being substituted for the glass one at the end of the first week. Not any complications have returned since her convalescence.

Dr. B. F. Baer presented a specimen:

**CYST REMOVED BY ENUCLEATION,**

which had been tapped seven times in seven years.

Miss A. was sent to him by his friend, Dr. S. S. Smith, of Driftwood, Pa., and entered his private infirmary on October 3d. She is single, 44 years of age; had enjoyed good health until eight years ago, when she found that her abdomen was increasing in
size. She also complained of a peculiar pain, "running down in the pelvis," as she called it. Her abdomen continued to increase in size, until she had such difficulty in breathing that she could not walk upstairs without great dyspnea occurring. She was tapped on August 2d, 1882, and four gallons of fluid, "as clear as spring water," was removed. She does not think that she had lost any flesh during the early development of the tumor. In nine months she was tapped again, and three gallons of fluid removed. Between the first and secondappings she lost considerable flesh. At about the same interval she was tapped again, and three gallons of fluid removed. She was tapped yearly since August 2d, 1882—seven times in all—the last tapping occurring in April of this year.

Two or three years ago she began to flow more freely at her periods, until they became so profuse that she would flow as long as a month at a time. About the same time she noticed that there was a projection from the vulvar orifice which would become larger when she was on her feet and retained her water, and diminished in size after the bladder was empty. She presents an appearance of considerable emaciation, and states that she is rapidly losing strength. Inspection shows the abdomen to be distended to about the sixth month of gestation and symmetrical. The abdominal wall is very loose and flaccid. There is a circular scar midway between the umbilicus and pubes; and on questioning the patient she explains that she had a "running sore," which continued about two years. The suppuration followed one of the tappings, and took place from the puncture. Palpation of the abdomen shows a loose, thin-walled cyst in the cavity, which does not seem to be adherent to the abdominal wall. Fluctuation marked. Inspection of the vulvar orifice shows a cystocele about the size of a duck's egg, and also an inflammatory swelling of the left labium majus. The vaginal touch shows the cervix to be near the orifice of the vagina, and to be quite small. The lower part of the tumor is felt very distinctly posteriorly, and low down in the pelvis. The uterus is pushed forward and to the right, and occupies a position out of the pelvis above the right groin. The sound passes through the centre of the body last described to the depth of four inches, and shows it to be positively the uterus. The tumor appeared to have pelvic attachments below the uterus, as though it might be an intra-ligamentous cyst.

Operation, October 6th, in the presence of Drs. T. M. Drysdale and Charles P. Noble, and I was kindly assisted by Drs. J. M. Baldy and J. S. Baer. Incision two inches, and when the tumor was exposed to view it was found to be firmly adherent to several places, to the anterior abdominal wall, and to the point opposite the scar seat of former suppuring fistulous opening above noted; it was found that the fimbriated extremity of the Fallopian tube formed this latter attachment. It was this attachment of the ex-
treminity of the tube which had probably caused the elevation of the womb, as that organ seemed to be suspended from the point noted, the Fallopian tube extending from this point downward, over the tumor to the uterus, forming a portion of the wall of the tumor. It was also noticed that the outer and upper wall of the tumor was apparently closely adherent to the intestines. So closely related was the tumor to the intestines that it was necessary to carefully select a place where puncture could be made without wounding the bowel. About two gallons of thin fluid, rather straw-colored, was evacuated, when the cyst entirely collapsed. On attempting to draw it out it was found to be so deeply attached that it could not be withdrawn. The upper portion of the cyst-wall seemed to consist entirely of the intestines, which escaped through the incision when traction was made upon the cyst. They were hurriedly returned, and the fingers now carried downward toward the base of the tumor, where it was found that the entire pelvic peritoneum of the left side was lifted up, that is, the tumor was entirely subperitoneal and without a pedicle. A condition now presented itself which renders this case one of extreme interest. The base of the tumor was so broad, vascular, and so closely attached to the intestines, that to have begun to enucleate below would have been hazardous on account of the danger of rupturing the bowel, as well as from hemorrhage, which would probably have been great from opening of large blood-vessels. We determined that it would be best in this case to begin to enucleate at the point of puncture of the trocar, and it was found, much to our satisfaction, that the cyst was readily separated from its outer or peritoneal coat. So readily was this done that it was unnecessary to ligate a single blood-vessel, and the enucleation was finished within ten minutes. After the enucleation was completed, the entire peritoneal covering collapsed and disappeared. It contracted so quickly, indeed, as to make it difficult for me to find its cavity for the purpose of irrigation, which was next done. The thick Fallopian tube was next ligated and cut away, but the tumor itself was entirely without a pedicle, and was monocystic, as you will see in this beautiful specimen. After irrigating, the wound was closed around a small drainage-tube, and the patient returned to bed, showing some evidence of shock from the operation, from which she soon rallied. The drainage-tube was removed within thirty-six hours, and the patient has recovered. During the third and fourth days, the urine was found to contain pus and blood, but on investigation it was found that it probably originated from a former cystitis. The bladder was washed out twice daily with carbolized water, and she soon recovered from this condition.

In my experience this case is unique. The cases of broad ligation cysts, requiring enucleation, with which I have met, have been of such character as to require the application of many ligatures and pressure forceps to control the hemorrhage during
enucleation. Whether this is because I formerly began to enuclease near the base of the tumor, by breaking through the outer covering, or whether it is seldom that we meet with a tumor so easily enucleated as this one was, I do not know, but I lean rather to the latter view. My experience with this case, however, will lead me to endeavor, in future, to begin enucleation high up, at the top, and less vascular part of the cyst-wall.

It was long ago pointed out by Bantock that, in broad ligament or parovarian cysts, the peritoneal covering could be readily separated from the cyst proper. This served to distinguish it from the cyst of the ovary, the outer wall of which cannot be separated from the covering beneath it. While this was an intra-ligamentary cyst, it was not that form of cyst which is described by Doran as originating in the hilum of the ovary, and containing papillary growths. several specimens of which I have exhibited to this Society.

Dr. B. C. Hirst showed

AN INTRA-LIGAMENTOUS CYST.

This specimen was recently removed by an operation performed by Dr. T. H. Bradford, at which I had the pleasure of assisting. The tumor sprang from the right broad ligament, and was attached deep down in the pelvis. Its blood-vessels were enormous. It was covered by that curious muscular-looking capsule which makes these tumors resemble an enlarged uterus. There was furious hemorrhage at the lower attachment, when an attempt was made to ligate the pedicle. This was only controlled by a long pair of catch forceps passed in the dark. The entire tumor was removed, and the stump cauterized. The operation lasted over three hours, and the woman almost died on the table. She recovered from the immediate effects of the operation, but died three days later. The mass consists of a papillary growth internally, and a capsule which shows features referred to by Dr. Goodell in a meeting of the Society last December, and that is the seeming rottenness of the tumor-wall in spots, which makes it exceedingly difficult to remove these growths without tearing them, and allowing some of their contents to escape into the peritoneal cavity. This happened in the present case. Had the woman lived it is probable that the peritoneal surface would have been infected by this papillomatous matter.

Dr. R. P. Harris gave the case of the late Dr. Emeline Cleveland, who had become infected from an ovariotomy and had a syphilitic sore develop on her wrist, which ultimately was the cause of her death.

Dr. Joseph Price said the case reported by Dr. Goodell illustrated beautifully the primary and the secondary value of the tube, the signal of hemorrhage and the cure of the abscess which formed later. The woman would have perished from the hemorrhage or the abscess had the tube not been used. In regard to the virulence of living pus, he might say that he had twice been
poisoned in abdominal work. Virchow had called attention long since to the virulence of living pus. He differed entirely from Dr. Baer as regarded the nature of the cyst which he had presented. It was clearly a parovarian cyst. It belonged to that class of tumors to which we applied the minor methods of treatment without knowing exactly what the tumor was. In this case you may strip off the capsule and still have a cyst. This could have been done more readily if the specimen were a recent one. The other day he removed an enormous parovarian cyst, and in a few minutes was able to convert it into two cysts. Such tumors are always parovarian, and the enucleation is easy.

Dr. Baer had already separated the two coats of the cyst. He would confess frankly that, after reading Doran and other writers on this subject, he did not yet exactly understand the difference between these tumors.

Dr. Slocum asked Dr. Goodell what, in his opinion, was the origin of the two cysts in his case.

Dr. Geo. Shoemaker thought that, in using the bichloride solution to wash out incised and punctured wounds, it did not penetrate deeply. He should hesitate to place dependence on it unless the wounds were large enough for free irrigation and the solution was strong. A solution made of alcohol and bichloride was the best, as the solution would penetrate to all cysts. Free bleeding should be encouraged, and the wound should be enlarged.

Dr. H. A. Kelly thought that Dr. Baer had developed an interesting point in not using any ligatures. He had himself operated in four or five cases in which no tying was required. One of his cases was a pus sac and a small ovarian cyst. After enucleating the mass nothing but oozing points were left. He attributed this to the fact that he had before called attention, that after adhesions had formed the original blood source had withered away, and the mass was supplied by blood from the surrounding parts. In the case of another cyst closely resembling this, he had to use a greater number of ligatures than he had ever before used. Every point seemed to bleed and required separate ligature. This case he drained, and she recovered after he had opened a pus sac from the vagina. He now seldom used a drainage tube—never where he could avoid it. He did not fear clean blood and clean fluid, if not in too great quantity. He had had no trouble for a time in his hospital since he had adopted this method.

Dr. J. M. Baldy called attention to a point mentioned by Dr. Baer. He (Baer) stated that the Fallopian tube was attached near the umbilicus at the point of a scar produced by one of the tapping punctures. This is another illustration of the danger which all now realize. The tube had been perforated by the aspirator and had become attached to the abdominal wall near the umbilicus. It had here discharged pus for a long time. The fistula which had been left could not be accounted for until the operation. The result of this accident might easily have been most disastrous.

Dr. Wm. Goodell remarked that, in reply to the gentleman who asked what those other cysts were, he must confess that he could not explain them satisfactorily. Their presence was something new to him. Whether or not they were due to the syphilitic element he was unable to say. He knew that one was wholly independent of the other two cysts. He was not so sure of the second. He was disposed to attribute the abscess to one of these cysts taking on inflammatory action subsequently.
With reference to the distinction between parovarian and broad-ligament cysts, he must confess that he had labored under the same difficulties that Dr. Baer had. The term broad-ligament cyst was a generic one, for there are differences in broad-ligament cysts. In a parovarian cyst the two layers can be readily stripped from one another. In an ovarian cyst, on the other hand, every escaping Graafian follicle has caused a scar which rivets the two tissues together, so that in such a cyst the two layers cannot be separated. Of broad-ligament cysts we have two typical varieties: one is a true intra-ligamentary cyst, usually containing papillary growths, and attributed by Doran to the hilum of the ovary; the other, of which Dr. Baer's specimen was an illustration, is a cyst starting from the horizontal or vertical tubes of the parovarium. These are very beautiful translucent cysts, over which the fimbria of the Fallopian tube run and spread like the fronds of seaweed. They also contain limpid fluid. A third broad-ligament cyst is the hydatid of Morgagni. There are other cysts to which Doran has referred, but he did not understand fully its description, and he thought that Doran himself does not clearly understand them, from his description. Others describe other broad-ligament cysts. They claim that cysts will form here as elsewhere. For instance, we have retention cysts in the labia from enlargement of the glands of Duverney, and we have other cysts not connected with this gland. These are attributed by some to serous accumulations in the insterspaces of areolar tissue. In order to simplify matters, he divides these cysts into two sets, the true parovarian cysts and the true intra-ligamentary cysts, liable to contain papilloma. These intra-ligamentary cysts try one more than any other kind. The deep and tedious enucleation, and the spouting vessels beyond reach, make anxious work. The adhesions also obscure the landmarks and are very perplexing. About five weeks ago he tackled one of these cysts, and in endeavoring to enucleate it he tore a hole in the bladder into which three fingers could be introduced. The same accident happened to him several years ago, before he had ever heard of an intra ligamentary cyst. Both cases fortunately recovered. He sewed up the wound in the bladder, in this last case, with a continuous catgut suture. He then took the portion of the broad ligament which had been stripped up and united that over the bladder, so that he had two sets of sutures, like the Czerny-Lembert suture in wounds of the intestines. He introduced a self-retaining catheter, and there was no further trouble except that the eyes of the instrument at first became clogged by blood in the bladder. In the former case a good deal of blood accumulated in the bladder. This he was able to dislodge by injecting a solution of pepsin, which seemed to digest and break up the clots.

Dr. Hirst also reported

SIX CASES OF Puerperal Insanity.

In the last eighteen months he had seen six cases of puerperal insanity—an unusual experience for an obstetrician—since, according to Fordyce Barker, this condition only occurs once in four hundred cases of labor. Of these six, four were illegitimately pregnant, two had mania, while four presented melancholia, apathetic appearance, and seemed indifferent to all about them; three
of the women recovered their reason, two are apparently hopelessly insane, and one died from a septicemia, which was associated with, and perhaps caused, the mental state. One case was sudden in its onset, violent in its manifestations, but short in its duration; the woman was told two weeks after confinement that her perineum was ruptured, and must probably be sewed together; she almost immediately became maniacal, and remained so for about three weeks. A correct idea of the most common variety of this affection, of the prognosis, and the best means of treatment, cannot be obtained from an obstetrician's practice, which must necessarily be small, but must be sought for in records of such cases presented by competent observers who, especially if in charge of asylums, have to deal with a large number of them. Studies of more than eight hundred of these cases by Clark, McLeod, and Wigglesworth have recently been published; from them it appears that the maniacal form of the disease is the most common: that a large majority of the cases recover, usually within six months; that when death occurs, it is commonly traceable to sepsis, which is so often associated with puerperal insanity, although a few cases die from maniacal exhaustion; that the best treatment is the Weir-Mitchell rest cure. Heredity plays a most important part in the etiology of the disease; very often the subject is mentally or physically depressed. It seems not very uncommon for the chorea of pregnancy to develop into insanity; this happened in one of my cases.

DR. JOSEPH PRICE exhibited specimens of

OVARIIES AND TUBES.

The first specimens shown had been placed in a bath, in order that the adhesions might be plainly seen. The pavilion in both tubes was closed; there was no semblance of a fimbriated extremity; the tubes had been separated from the ovaries. He could not enucleate the ovaries in this case until the fundus of the uterus had been shelled out. He always floated the appendages in water in order that it might be seen that there were adhesions before the spectators left the room. A simple examination was apt to provoke harsh, and often unprofessional, criticism. There was a gonorrheal history in this case, and the woman suffered greatly. The last child was born ten years ago, and since then she has suffered constantly. Locomotion was painful and difficult; stepping from a curbstone, or turning over in bed, caused great pain.

The second specimen consisted of both Fallopian tubes and ovaries, illustrating that condition known as hemato-salpinx. In shelling them out, the pavilions were opened and found to contain a coffee-colored material; the condition might be termed an hemato-salpinx, although that is not exactly what is generally recognized as an hemato-salpinx. With the fluid or concretion from
a typical hemato-salpinx you can make a black mark on a white wall.

He scarcely knew how to describe the next specimen. The peritoneum was studded with hard bodies; it was difficult to get into the pelvis. A peritoneal cyst containing a quart or more of fluid was opened. The tubes were adherent, large, and clumsy; the ovaries clearly cystic. The adhesions are very general, and it was difficult to start the enucleation. The pavilions are closed. In these cases the adhesions are often so strong that the ovarian tissue is torn, and he has often left a small piece of ovary on the sacrum in trying to make the separation.

Dr. WM. GOODELL understood that the peritoneum was covered with papillary deposit in the last case. There it must be a papillomatous cyst of the ovary and the papillomata have either grown through the wall of the ovary to its surface, or else they have developed on the surface. In these cases he had found universal infection with papillary deposits everywhere on the peritoneum. Sometimes these growths have proved malignant, at other times benign.

Dr. W. H. PARISH asked if the deposits might not be tubercular. It would require the microscope to determine their character. They looked very much like what he found in a case of tubercular deposit in the peritoneum, associated with adhesions and thickening of the tubes and ovaries. He had opened the abdomen and removed the peritoneal fluid; this has been followed by wonderful improvement. The abdominal tension and distention disappeared, and have not returned. She is now a well woman. Previous to the operation she was almost bed-ridden. He would say in regard to the specimens before him that they do not exhibit their condition as they do at the time of the operation, and he had thought that criticism on the propriety of the operation was not altogether fair, when made by gentlemen who have not seen the specimens in the fresh state. There is a great difference in the appearance of specimens when presented here and that at the time of the operation. Moreover, the inflammatory mass and the adhesions about the appendages are not fully indicated by the specimens after removal.

Dr. T. M. DRYSDALE saw the specimen in its fresh state. It did not then present the flattened appearance of a tubercular deposit, but resembled the rough, warty look of a papillomatous growth.

Dr. BAER said that the specimens which had just been presented would seem to sustain him in the view which he had expressed regarding the pathology in these cases, viz.: that the condition of the tubes usually met with is one of a general non-purulent inflammatory condition, rather than of pyo-salpinx; for there is not one of the latter character among the specimens presented. This is the condition he usually meets with in his operations. In one of these cases the disease was said to result from gonorrheal infection, yet it is not stated that pus was present. There is no question, however, as to the gravity of the disease and the necessity of the removal of the appendages in all but one of the cases presented, whether pus was present or not. The tubes were so hypertrophied and dilated, and the ovaries so thor-
oughtly diseased, that it could never be hoped to cure these patients by any other means than by removal of the appendages. But the specimen which has been placed in water for the purpose of demonstrating that inflammatory adhesions really did exist in the case, and in which the ovary and tube do not seem to be seriously diseased, and of which he states he has been criticised, sometimes severely, for the removal of the appendages in such cases, should not be passed without comment. He had himself been criticised for removing such tubes and ovaries, and perhaps justly, for it does seem, and he believed it was true, that a specimen presenting such slight disease that it is necessary to place it in water to demonstrate the adhesions to a society of experts, might be cured without operation. In such a case there must, on physical examination, have been very little thickening of its tubes and ovaries felt through the abdominal wall or the vagina; there must have been such slight evidence as to require an expert like Dr. Price and some others to determine the presence of disease. He had no doubt that many cases of pelvic peritonitis, even recurring peritonitis, are cured by spontaneous absorption of the inflammatory exudate without treatment; but he was sure that with treatment by rest, etc., he had cured many cases where the tubes and ovaries had been as adherent as in this case, and even worse. In such a case there must have been found very little thickening of the organs and tissues involved as felt through the vagina and abdominal wall. He had seen such cases get well and have children. It was always well, however, to tell the patient that the disease was liable to return, so that she might observe greater care. But it cannot be doubted that many cases of pelvic peritonitis recover entirely, and do not necessarily have a recurrence of the disease.

Dr. M. Price said that he would take great pleasure in showing Dr. Baer the next pus tubes he removed. The specimens before him were as pretty examples as he had seen. In one case there were three abscesses in the one tube, showing positively that in such cases the treatment of Martin by drainage through the vagina was impossible, for good. There might be cases in which such treatment would answer the purpose, but when the tube was evacuated, each sac containing pus, and in addition, as a result of leakage, there are abscesses in the cellular tissue of the pelvis, it is not applicable. He did not believe that these abscesses ever occurred, except as the result of leakage.

Dr. J. M. Baldy thought that it did not require an expert to diagnose such tubes as were presented and had been placed in water. The inflamed tubes are plainly and easily recognized. They are felt to the right or left of the cervix or posteriorly in the cul-de-sac as an irregular hard mass, which masses it was the custom in times past to diagnose as cellulitis. When removed the specimens often looked very small. With reference to the absorption of adhesions, he did not believe that this ever occurred. He believed that a tube and ovary once adherent, was always adherent, and that no form of treatment would produce absorption. He had seen any number of cases treated medically for years by the most skilful men, but they had come finally to the knife. At the operation these had been found simply adherent tubes and ovaries. As far as the possibility of these cases becoming impregnated was concerned, where the disease was bilateral, such cases were simply examples of mistaken diagnosis. When the fimbriated extremi-
ties or uterine ends of the tubes were closed, it became a physical impossibility for impregnation to take place.

Dr. Baer said that he would be glad to examine any specimen which Dr. Price might wish to bring, but if he expected to show by a pus tube something that he had never seen, it would not be necessary for him to come. He then related the following case in support of his position: Six years ago a lady was sent to him, and on examination she was found to have a small circumscribed tumor attached to the posterior surface of the left broad ligament. It seemed to be an inflamed ovary (and afterwards proved to be), which was surrounded by a mass of lymph, which fixed it in the prolapsed position which it occupied. It could not be determined certainly, but the tube was thought also to be fixed by the lymph mass. The patient had had a child nine years before, and subsequent means for the prevention of conception had been resorted to for a number of years. She now desired children, but sterility had followed this long course of procedures. She was placed upon treatment with which you are all familiar, consisting of rest, massage, electricity, the use of iodine, hot water, etc. The case began to improve after the second or third week of treatment. The tumor, which was not larger than a walnut, gradually became smaller from absorption of the lymph around it; both the uterus and ovary became more mobile, and within two months the ovary had returned to almost its normal size. The opposite side was also affected, but less severely. This lady has borne two children since. Would it have been just to the patient to have removed the tubes and ovaries in this case? Is it right to sacrifice the ovaries and tubes in cases of this character without first making an effort to cure without operation? In some cases, the main pathology is a pelvic peritonitis with adhesions, rather than ovarian and tubal disease. He holds that criticism is just under these circumstances.

Dr. H. A. Kelly thought that the discussion aroused by these specimens had assumed a very important direction, and he must heartily agree with Dr. Baer, for he had often seen light adhesions of uterus and ovaries absorbed while under treatment. There is still too much furor operativeus, and too little diagnostic precision. Men must cultivate their tactile sense more. The mere operation is often nothing. He actually had one case under his care who was told by a doctor in August that there was a pus-sac in her pelvis, and if she did not at once consent to operation her life was in imminent danger. Being his patient, she refused to be railroaded into an operation in this way, and came to him on his return, when he found her pregnant. How careful men ought to be, how little is in the operation, how much in the judgment which decides it! Brandt's treatment of massage deserves careful trial in cases where there is no fluid accumulation in the pelvis. He had long since ceased to bring specimens of freshly-removed tubes and ovaries before this Society for exhibition, as it is the same old story every time, and he was allowed to repeat it—big tubes, without ovaries, pus and water, or blood, intestinal and mesenteric adhesions tied off, pelvis flushed, drainage-tube. He had six cases in the past week, all but one most difficult enucleations, but he had no new suggestions to offer, and so he withheld them. It was due to the dignity of the Society that, as years went by, we should at least make some advance in our knowledge, but here we were to-day using the same terms we used three years ago, hydro-
These, might he and that of trephine so. almost with than for any thought and the ovaries. These questions are most important both as regards prophylaxis and the mere technique of the operation. We want more natural history of these diseases, and more pathology; then, perhaps, we would devise better ways of relieving these patients.

Dr. W. S. Stewart understood that, in the case referred to by Dr. Baer, only one ovary was involved. Might it not be possible that, where the tube of one side was bound down by adhesions, the tube of the other side might have performed the proper function for both, or perhaps all of the functions had been performed by the ovary and tube of the opposite side?

Dr. Joseph Price was delighted to hear the words of caution and alarm sounded: that it is time to cease removing healthy ovaries. He had never removed ovaries that were not diseased, for vague nervous symptoms. He should be glad to have any of these specimens examined by pathologists, and if they could say that anything could possibly pass through such a pavilion he would be greatly surprised. These cases had been treated medically by the best men in the profession. The vaginal vault could be rubbed and painted, and tickled with electricity for years, but this would never release the pavilion. Drs. Drysdale and Parvin were both present at the operation, and if they had any criticism to offer, he thought they would have made it. He would be glad to know of any other successful way of treating these old chronic cases, other than by removal, but he did not. Dr. Baer, he thought, did not mean what he said about treating these patients. We may have adherent ovary with the pavilion free. The only way in which such a case could be diagnosed was by the history. These cases can be easily classified—they are all distinct theories; it is folly to say that a tube containing pus is not a pus-tube; again, one containing blood, give it a better name, if you can, than hematosalpinx; again, with hydro-salpinx; give it a better name if you can. If any one can go further than Mr. Tait has done, let him do so. At present I think we understand our position. He was aware that men did remove ovaries for ovaralgia, so-called cirrhotic ovaries. He thought that we should condemn all such operations. It is as absurd to remove a so-called cirrhotic ovary as it is to trephine the head for clavus hystericus in the same hysterical patient. He must insist that he operated for actual disease, and that he had no right to touch a patient except for disease. The results of the Battey operation are not good; and it is condemned throughout the country.

Dr. Montgomery reported a case of vaginal hysterectomy with the following history: Mrs. M., a patient of Dr. T. O. Nock, 40 years old, the mother of five children, and the victim of a large number of miscarriages, has been suffering for the last six years with frequent hemorrhages, which for the past few months became almost continuous. He saw her in consultation with the doctor, some months since, and upon examination found an excoriation
on the posterior lip extending into the uterine canal. It was advised that the surface be touched with chromic acid, and subsequently treated with soothing applications; if there was not rapid improvement following this course, a section should be removed for microscopical examination. Failure to arrest the disease, and the demonstration of the presence of epithelioma by the examination of a competent microscopist, led to the decision to proceed to the extirpation of the organ. October 4th, at the request of Dr. Nock, and assisted by him and Drs. West, Rively, and Mr. Croskey, he had performed the operation. The patient, anesthetized, was placed in the lithotomy position, the vagina separated by retractors, and the cervix transfixed by a ligature. The vaginal mucous membrane was cut through, encircling the cervix, the submucous tissue separated to the peritoneum in front and back, the broad ligament was cut laterally sufficient to make sure to free the ureters from injury in securing the ligaments. An opening was now made into the peritoneal pouch posteriorly, and a large sponge inserted; two fingers inserted, pushed the fundus forward, and the opening anterior was completed. A pair of strong forceps, so constructed as to make equal pressure in their whole length, was applied upon either side of the uterus, and the organ removed. Some vessels not included in the compression forceps continued to bleed, so that a number of small forceps were applied. In all, some eight forceps were applied, and left hanging from the vagina. The sponge was withdrawn from the pelvis, and the vagina lightly packed with iodoform gauze. The small forceps were removed at the end of thirty hours, and the large ones in sixty. The convalescence of the patient was uninterrupted and without event. The highest temperature reached was 100° on the third day.

Dr. Montgomery also presented a case of SUPRA-VAGINAL Hysterectomy.

The woman, October 29th, married, never pregnant, has been suffering for several years from severe metrorrhagia. One year ago he saw her with Dr. Strittmatter, and, upon examination, found a large fibroid uterus. She presented evidence in her blanched face of having suffered from severe hemorrhage. The removal of the uterus, supra-vaginal, was advised. She was advised by her friends to consult other parties, who informed her that such an operation would be certainly fatal, and advised the removal of the ovaries. The hemorrhage still continuing, she went to Dr. Strittmatter's private hospital, and, at his request, Dr. Montgomery performed the operation, in which he was assisted by Drs. Strittmatter, Moylan, and Messrs. Starkey and Sangree, medical students. An incision was made about six inches long and the tumor, with difficulty, lifted up. The ovaries were enlarged, cystic, adherent, and behind the uterus. The removal of the uterus was more readily accomplished than would have been the removal of the ovaries. With the purpose of returning the pedi-
Ostetrical Society of Philadelphia.

183

cle, the neck of the uterus was surrounded with a rubber ligature and the tumor removed, leaving two large flaps; those were sewed together by a number of continuous sutures of catgut until the flaps were completely coapted. Upon the removal of the ligature, however, there was so much bleeding that it was thought better to use the Tait clamp. The peritoneum was sewn fast to the stump of the uterus below the clamp. One ovary had been removed, and the other, owing to extensive adhesions, was permitted to remain. The wound was closed with silk-worm gut, dusted with iodoform, and covered with iodoform gauze and absorbent cotton. She stood the operation fairly well, and suffered but little from shock; the following day the temperature was over 104°. Believing it to be due to the dressing, Dr. S. applied a carbolized gauze dressing, and the next day the temperature was 99°. Her subsequent convalescence was all that could be wished for, and the wound has now healed with the exception of the lower angle, where the stump was fastened.

Dr. Montgomery read the history of a case of

TUBAL PREGNANCY

for Dr. Nock.

Mrs. ——, 28 years old, married, has had four children; labors normal. Had menstruated regularly until August 17th last, with no evidence of it since that time. She thought herself pregnant, and felt nothing unusual. She arose one morning from her bed and fell to the floor. She went back to bed, and, not improving any, Dr. N. was sent for. He found her with a very pallid, and pinched and waxen-like condition of the face; body and extremities cold and perspiring. Respiration was very rapid and shallow, and the breath cold. Heart beats regular, but very weak; pulse small and compressible, and very rapid; temperature under 94°; there was marked stupor, but she could be aroused, with difficulty, to answer questions. The uterus was somewhat enlarged, cervix slightly softened, and there was a gradual oozing from the os of a coffee-colored fluid. She had very little pain, but felt extremely weak. Her whole appearance indicated internal hemorrhage. The diagnosis of tubal pregnancy, with rupture, was made. Laparatomy was considered but deemed useless, for fear the etherization would cause heart failure, and death on the table in consequence. Diffusible stimulants were freely given, and the local application of heat was used in the hope that reaction might occur, and laparatomy be possible. She continued to fail, and died at 10:30 P.M., never having recovered from her shock. The post-mortem showed an abdomen filled with blood-clots. A small fetus was found in the left inguinal region, floating in its sac, which was still unruptured. The tube was found to be ruptured midway between the uterus and ovary, leaving the placenta still in the tube. Development had advanced to about the seventh or eighth week.
Dr. Montgomery then exhibited a

CLAMP

He had devised for clamping the broad ligaments in cases of vaginal hysterectomy. The two blades were each grooved, and could be closed with a parallel motion. They were joined at the top by a permanent joint. The surface of the blades were long enough to include the whole ligament in one grasp.

Dr. Wm. Goodell was sorry that he had overlooked the fact that Dr. Montgomery had a case of this kind to present. He would have brought a pair of Doléris' forceps, which he received through the kindness of Dr. Lusk. It is a clamp analogous to the one shown, but it has the obstetric lock. The blades can be disarticulated, and one of them ends with a short hook, by which the broad ligament is caught at its upper edge and brought down. He had not had occasion to perform the operation since he had received the clamp, but he had had two cases, one of which was fatal. The operation with the ligature was a tedious one, and the use of the clamp must shorten it. He believed that we were indebted to Richelot for the clamp.

Dr. J. M. Baldy asked how Dr. Montgomery would apply his clamp. It was much like the one figured in Greig Smith's book, except that it was permanently locked above at this joint, where Smith's could be taken apart, one blade introduced on each side of the ligament, and then the joint made above. He could not see how this one could be easily applied unless the abdominal cavity were opened, and it was slipped down from above.

Dr. Wm. Parish had seen the description of a clamp with separable blades, the deviser of which he could not recall. One of the blades has a long fenestrum open at the distal end, and the other blade fits into this open space. This gives uniform compression of the broad ligament. With the instrument shown the compression may not be uniform.

Dr. Montgomery said that in the majority of cases there was not much infiltration of the ligament. After cutting the ligaments in the manner described, the uterus can generally be readily everted, and the fundus of the organ brought to the vaginal orifice, and the clamp applied from the outside. Even in those cases in which the ligament is not readily drawn out, he saw no reason why the instrument should not be pushed into the abdominal cavity, and one blade brought down on each side of the ligament. If the instrument was clean, it would do no harm to the peritoneal cavity.

Dr. Baldy said that the specimen of tubal pregnancy was interesting as demonstrating Tait's theory of the pathology of extrauterine pregnancy. Tait holds that rupture takes place into the broad ligament, and that the fetus then goes on to develop, or a secondary rupture subsequently takes place into the abdominal cavity. This process is most beautifully shown in this specimen. The cavity of the tube and broad ligament form one, and the rupture has taken place into the peritoneal cavity.

Dr. H. A. Kelly described some

GLASS CATHETERS.

Some five years ago he was hard pressed to catheterize a woman suffering from a distended bladder, not having his catheters with
him and being at some distance from his office, he took the crooked glass tube out of the baby's feeding bottle and drew the water with perfect ease. Since that time he had had more or less constantly used glass catheters, which he had constructed for the purpose, and he placed far more confidence in the glass than in the metal catheter. The manifest requirements of a good catheter are that it should be easy to introduce, draw the water quickly, and be readily cleansed afterwards. The first two requirements are readily answered by any materials of which catheters are commonly made. In the last lies the difficulty. It is impossible to be sure that the inside of the catheter is clean. He has hitherto directed the nurses in his hospitals, where the catheter is in constant use, to keep them, when out of use, in boiling water. He is now using glass catheters constructed like those he exhibited. They are very cheap, safe (never breaking when in use), and cleansed with ease and certainty. In a hospital a number can be kept standing in a jar containing a disinfecting solution. The device of catheterizing with a glass tube is so simple that he was sure many present, as elsewhere, must have resorted to it long before this. He was also not surprised this summer when he found well-made glass catheters for sale at the instrument-makers in Berlin. He presented two patterns, which were sold by Gem-rig at twenty-five cents each.

Dr. Kelly also read a paper on the distribution of hairs on the female genitals, to which he gave the title of the

FEMALE ESCUTCHEON,

pointing out the characteristic differences between the male and female types, as well as the development of the "escutcheon" at puberty, its persistence throughout the period of sexual activity, and its disappearance in old age. Dr. Kelly also drew certain conclusions as to the value of the "escutcheon" in cases of retarded development and doubtful sex.

DR. T. M. DRYSDALE remarked that he was positive that after death, or before, the sex could not be told by the distribution of the pubic hairs. He had seen the two types, that of man and that of woman, run so nearly together that no reliance whatever could be put on this.

DR. WM. GOODELL stated that Caspar in his "Forensic Medicine" had referred to the different distribution of the pubic hairs in the male from that of the female, as the means of diagnostating the sex in decomposed bodies. Dr. Goodell did not know what rôle the pubic hairs played in the economy. It certainly cannot serve as a pad, because in Mahommedan nations the genitalia of both sexes are scrupulously depilated.

DR. SHOFMAKER said a reference to this subject may be found in the "American System of Gynecology." Dr. Kelly does not regard this as an absolute rule. He has seen the hair extend to the umbilicus in the female as in the male, but has frequently noticed some of the points to which he has called attention. He is correct in regard to the general type.
Dr. Stewart said the rule among the Indians is to have the hair extracted and not shaved. Four years ago, while travelling in the West, he was shown some photographs of nude Indian women and inquired why there was no exhibition of pubic hair, and was told that they always had them extracted. He thought the use of the hair was for the protection of the vulva, just as the eyebrows and lashes were for the protection of the eye from perspiration, etc.

Dr. Kelly was glad that the discussion had brought out several interesting points in the natural history and in anthropology. In the Eastern countries, where it is a disgrace for a woman to have hair on her genitals, they have a saying of reproach, "thou son of a woman with hair on her parts." The male type is very different from the female type. It is rare to find in the female more than a few scattering hairs run up to the umbilicus. He called attention to the subject as a complete picture. Dr. Coe, in the last number of the "American System of Gynecology," says that in examining six or seven hundred women in Vienna, he found only six or seven in which the hair tended to go toward the umbilicus, which were rather of the male type. This is an interesting and important fact.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, November 16th, 1888.

The President, Charles T. Parkes, M.D., in the Chair.

Dr. A. Reeves Jackson read the following paper, entitled:

ON SOME UNCURED CASES OF UTERINE HEMORRHAGE.

Some persons who may be in a habit of reading the reports of our transactions will, perhaps, be surprised to learn that we do not cure all of our patients. And such surprise would seem reasonable from the fact that the cases whose histories are presented to us comprise usually only those which end favorably, and which, consequently, reflect credit upon our skill. It is possible, however, that if we should publish our failures with the same alacrity that we do our successes, it would be evident that we are no more infallible than our neighbors.

I desire to report the histories of some of the cases in which I have failed to cure a rather frequent ailment—uterine hemorrhage.

Case I.—Mrs. F. W. first consulted me on July 7th, 1884. She was 28 years old, and had been married two and a half years; no pregnancy. Menstruation commenced at the age of sixteen, and had always been regular and in every way normal down to the time of marriage. After that event, a period occurred at proper time. The patient then missed two periods. After lifting a heavy weight,
a flow of blood appeared and continued for several weeks. She visited Dr. Wm. Goodell, of Philadelphia, who currette the uterus in May, 1883. I do not know what, or whether anything, was removed, but the patient considered herself well for four months. In the following autumn, two periods were again missed. After a trifling misstep a red flow began, and continued about one-half of the time for nine months; then I saw her. She was a large but not tall woman, weighing one hundred and sixty-two pounds, of dark and rather dull complexion, and habitually despondent temperament. There was no history or present evidences of any disease of important thoracic or abdominal organs. The pelvic viscera were found to be entirely normal in size and position. The os uteri was rather small, but of virginal shape, and free from redness or erosion.

On July 9th, I administered ether, and curretted the uterine cavity. A few fungous granulations were removed, and an application made of Churchill's iodine solution. This latter was repeated every four to seven days. For about three months menstruation appeared at intervals of four or five weeks, rather profusely, and lasting from seven to ten days. Then the inter-hemorrhagic periods became shorter—about three weeks. During the spring of 1885, the intervals were about two weeks; once, only nine days intervened. In the early part of 1886, the flow was more irregular, recurring every three to six weeks. In July, however, it appeared after an interval of two weeks and lasted three weeks, not profusely but constantly. In August following, I again used the curette, without any result. Nothing was removed, and no change was produced in the symptoms. In June, 1887, the same operation was followed by a like negative result. A month later, my connection with the case ceased. During the time of my attendance (which was not continuous, but interrupted sometimes for periods of several months) the treatment consisted in efforts to overcome habitual constipation, and the intra-uterine application of iodine, carabolic acid, a solution of ferric alum, etc. These applications were always preceded by the introduction of a No. 12 bougie. There were two unfavorable conditions present in this case which I could not obviate. The one was tight-waist dressing, and the other an insuperable objection to active exercise.

Within the past few days the husband of this patient called upon me and stated that the subsequent history of his wife presented no material change; that, at times, she seemed better, and then became worse again. She is now under the care of a prominent physician of this city, and is thought to be improving.

Case II.—Mrs. E. D. placed herself under my care January 22d, 1885. She was a Jewess, had been married three years, and was never pregnant. Menstruation began at twelve, had never been distinctly regular, and for many years was rather scanty. During the past year, however, the discharge had, recurred with greater
frequency than ever before, the interval being less than four weeks, and it had become shorter and shorter, while, at the same time, the quantity of discharge at each period had steadily increased. During the month immediately preceding my first interview with the patient, there had been three attacks of flowing.

In personal appearance, this patient was noticeable and rather peculiar. She was of medium height, and much too stout to be termed plump. She had the very dark and abundant hair which is characteristic of so many of her race, and there was a marked growth of hair upon her upper lip, on her face from the temporal regions to the chin, and on her neck.

Interrogation failed to elicit any evidence whatever of cardiac, pulmonary, hepatic, or renal disorder. The patient ate well, slept well, and felt well. She was only annoyed by the frequency of the bloody flow. A pelvic examination revealed no abnormal condition, position, or shape of any of the organs. The single disordered symptom discoverable consisted in a discharge of dark blood which was seen slowly oozing from the os uteri. The introduction of the sound was easily accomplished and was followed by a rather profuse flow of redder blood.

Two days later, under ether anesthesia, the cervical canal was moderately dilated, and the interior of the uterus curetted. A small number of fungosities were removed and the uterine cavity swabbed with Churchill's iodine solution. On February 20th, a bloody discharge appeared, and continued more or less profusely until March 14th—three weeks. I then made an application of Monsel's solution of iron. The discharge ceased for two days; it then reappeared and lasted to March 23d—seven days. I again diluted the cervical canal and passed in a curette, without removing anything, and applied the iodine solution. There was no discharge for eight days subsequently. Then a flow which seemed like that of menstruation appeared. It lasted five days, ceased two days, reappeared and continued with occasional intervals of one or two days until April 23d, when it became profuse and seemed like menstruation again. After a few days the flow diminished, but a reddish-tinged oozing continued until a more profuse flow indicated the return of catamential discharge. On November 9th, the patient reported that the longest time she had been free from bloody discharge was four days.

During all that time, I had availed myself of frequent opportunities of making local applications of iodine, carbolic acid, Monsel's solution, alum, fused nitrate of silver, etc. Also, I had given quinine, ergot, and viburnum, and on several occasions I had gently dilated the cervical canal, and tried to get away something with the dull curette.

No especial change was noticed in the symptoms in the summer of 1886, during which time all treatment was suspended. In January, 1887, the patient informed me that once only she was free
from hemorrhage for a period of three weeks. Treatment was then resumed. I introduced a tupelo tent and followed the dilatation by a very thorough application of iodized phenol. This was repeated at intervals of five to seven days for several weeks. There was no improvement. Then, I tried nitrate of silver for awhile, but the hemorrhage continued. In the summer of 1887, the patient went to Europe with her husband, and for a few weeks while there she was somewhat better. In the following autumn, however, after her return, the hemorrhage was as constant as before. On December 23d, I dilated the uterine canal mechanically under anesthesia, and removed two large granulations. She died one week later of peritonitis.

Case III.—Mrs. W. L., aged 35 years, had been married seven years, and had two children, the younger being sixteen months old. I saw her on September 5th, 1885. When the baby was ten months old, menstruation appeared, and for two periods was quite normal, lasting four days. The third came a week too soon and lasted two weeks. After an interval of two weeks it again appeared, and when it had persisted ten days, necessitating two or more napkins daily, she applied for relief. She then showed effects of the loss in pallor, impaired strength, and enfeebled digestion. The baby was weaned, and the patient took strychnia, quinine, and arsenic. I found no pelvic cause for the hemorrhage unless it might have been a slight degree of subinvolution.

The uterus was freely movable, in normal position, free from erosion, and there was no swelling or undue tenderness in the region of the ovaries, tubes, or broad ligaments. Constipation was present, and I prescribed salines and a regulated nutritious diet. Subsequently, the hemorrhage continuing more or less constantly, although not profusely, other means were tried, many of them rather empirically. They included ergot, hydrastis, viburnum—all without perceptible effect. Then I dilated the cervical canal and explored the interior of the uterus with finger and curette. Nothing was found.

After about eight months, the patient placed herself under the care of an electrician, who treated her for nearly six months. Then she went to Cincinnati, and remained several months under the care of a distinguished gynecologist. She returned to me in January last, and stated that she had not at any time been more than ten days without a bloody discharge, and rarely more than three days. The menstrual periods were distinguishable by the more profuse flow which marked their presence, and they were fairly regular.

Once more I dilated the cervix under etherization, and drew a curette over every part of the intra-uterine surface, taking especial care to get the instrument into the cornual depressions. No tissue was brought away, and very little blood. I subsequently made internal applications of tinct. iodine, tannin, Monsel’s solution, and once, at the close of what seemed to be a menstrual
period, I applied nitric acid. While, at times, there was a diminution of the discharge, the improvement was only temporary, and in July last she again passed from my care.

Case IV.—The notes of the following case were kindly furnished me by Dr. J. H. Stowell.

M. M., a single woman, 25 years of age, was born in Canada. Menstruation commenced at twelve, and was quite regular until she was nineteen; then the flow became prolonged, lasting sometimes five or six weeks. This was followed by regularity, both in quantity and times of recurrence for a few months, when menorrhagia again appeared.

At the age of twenty-two she was examined by a physician at Ottawa, who curetted the uterus, with what immediate result is not known, but the patient was free from all sanguineous discharge during a period of three months. Menstruation then returned and was regular and in every respect normal for the following four months. Becoming menorrhagic again the curetting was repeated, with the same temporarily beneficial results as before. Again after a few months, the flow became profuse and a third curetting was made six months after the second, the latter time without apparent benefit.

The patient removed to this city and came under the care of Dr. Stowell, with whom I saw her in the early part of the current year. On January 21st, after thorough dilatation of the uterine canal, I curetted very carefully, removing a small number of granulations. The operation was followed by the application of Churchill's iodine. For two months subsequently there was no bloody discharge. Then it reappeared, and Dr. Stowell informs me that he has continued to treat the symptom in a routine manner locally and generally, but without satisfactory result. Latterly this case presents a curious feature: the flow is very profuse every alternate month, and normal the other.

Within the past fortnight this patient has been placed under the care of a gentleman skilled in the application of electricity, in the hope that she may be benefited by that remedy.

It will be observed that in the foregoing cases there were some features common to them all. Thus, in none of them did the hemorrhage take the form of rapid, profuse flow suddenly exhausting the patient, as we not infrequently notice in cases in which the discharge depends upon an abortion, or upon the presence of cancer or fibroid neoplasm. On the contrary, the evil effects produced were the result rather of the persistence of the discharge covering long periods of time. Again, in none of them was there evidence of disease of the lungs, heart, liver, kidneys, or other important organs causing a depraved condition of the blood or pelvic plethora. In none of them was there a history of hematocele, pelvic inflammation, or detectable pelvic swelling. In none of them was there any displacement or flexion of the uterus, or dislocation of the ovary. Indeed, in none could I determine a suffi-
cient local or systemic cause. I have thought that possibly some such cause might exist in disordered condition of the Fallopian tubes or pelvic cellular tissue not ascertainable by our present known methods of investigation.

Being aware of the influence of malarial poison in producing congestion of the abdominal and pelvic viscera, including perhaps the mucous membranes, I have not failed to take this possible etiological factor into consideration and to make careful inquiry with the view of ascertaining its existence. The result in each case was wholly negative.

My object in reporting these cases is twofold: first, to ascertain whether others besides myself have met with similar baffling experiences; and, secondly, to obtain such practical hints in the treatment of such cases as may hereafter lessen the number in which we have to acknowledge defeat.

Dr. D. T. Nelson.—I do not know that I can say very much to assist the doctor in the treatment of his cases, for that is evidently what is intended and what we should all need under the circumstances. I cannot say that I have seen just such cases; I only regret that the doctor was not able to follow the cases even longer. One died; I would like to know if there was any post-mortem examination. Perhaps the cause of death was such that it would hardly be satisfactory if there were a post-mortem. It seems to me that the only way we can arrive at a conclusion as to the nature of the disease and consequently the proper method of treatment, is to follow them longer. One case that I have seen—and there is but one that seems to me at all like these the doctor has reported—I was fortunate enough to see one or two years after a somewhat similar experience by other gentlemen, in which nothing was reported to have been found; in which there was curettage; but as I saw it subsequently there was plain evidence of fibroid tumor. Perhaps if these cases were seen longer or examined post mortem there would be a satisfactory explanation of the persistence of the hemorrhage. I think one of the small single or multiple fibroid tumors, which cannot be detected by the most skilful finger, or by any means of examination that we have at present, are likely to produce such results, and I believe they may lie dormant for a longer period than these cases have been observed; I am quite sure that I have seen them—and eventually, perhaps of their own nature, develop so as to be found; perhaps from some exciting cause other than that. There is another cause, it seems to me, for these hemorrhages, concerning which I can hardly speak rightly. I believe the writer of the paper is better able than any of us to talk on that subject, and I hope he will give us some information in that direction when he closes his remarks; namely, will disease of the Fallopian tubes produce hemorrhage from the uterus? I do not mean by that a salpingitis that will fill the tube with pus or serum, and be so large as to be easily felt, but actual disease of the mucous membrane, perhaps not extending much deeper than the mucous membrane, but capable of producing a continuous hemorrhage. I confess to being unable to point out a case in my experience, or in that of others, that is plain, but I simply throw it out as a hint, as a possible explanation, for further examination. Perhaps it is not a parallel case, and yet it seems to
me that there is a similar cause. A woman after menstruation, if you please, a week after the cessation of the menstrual period, takes cold, has a slight cough, has a traumatic or some slight disturbance in the pelvis giving pain and other evidences of inflammation; we all know that one of the most common symptoms attending upon the pain, etc., is hemorrhage from the uterus. Not a severe one, perhaps, but a slight flow. You may say that means congestion of the whole pelvic viscera. True, it ordinarily does. But what does produce the uterine flow? Is it the uterus alone, is it the ovaries alone, is it the broad ligaments only, is it the Fallopian tubes and the uterus, is it the Fallopian tubes only? It does seem to me in some instances that it is not only the uterus, not only the broad ligaments and vascular structures about the uterus; but that the Fallopian tubes and ovaries have very much to do with this condition. But the reader of the paper is able to enlighten us more than any one else in that direction. I believe if these cases were observed long enough, we should find a congestion of the uterus produced by a fibroma or sarcoma, or disease of the Fallopian tubes or ovaries, and pre-existing disease of the ovaries and tubes produce hyperemia of the uterus that favors the development of fibroma and sarcoma.

Dr. C. T. Parkes.—I should like to mention a report I have recently read in one of the foreign journals that applies somewhat to this question. A case was reported where all these remedies were used; curetting and intra-uterine dilatation, and finally the surgeon concluded he would make an abdominal section. After making the section, he found what he reports as a cavernous angiomata of one of the ovaries. It was removed and the case cured.

Dr. Robert Tilley.—It is my special interest in the last case reported by Dr. Jackson that has given me the honor of being present this evening. I have a little later information than Dr. Jackson has given us, that may be of some interest. Before proceeding further, however, I would like to correct a single remark towards the close of the case, namely, that the patient was placed under a gentleman skilled in electricity. I had a communication with Dr. Jackson on this point, and I thought that such would be the case. The reason why the patient came more or less under my observation was this: A distant relative, who is an intimate friend of mine, had been instrumental in bringing the patient here from Canada, and was a good deal concerned about the fact that she was not any better. She came to me for general counsel as to what would be the best course for her to adopt under the circumstances. I advised her to get letters from the doctors who had been in attendance on her and to send them to her parents, with the supposition that they would consult with the family physician who had previously curetted the uterus. Meanwhile, the patient was flowing considerably, and she asked me if I would not give her such general instructions as would enable her, at any rate, to be freed from a certain amount of anxiety which she necessarily would be under apart from that. I said that under those conditions I would, with the understanding that if any serious symptoms developed I should not think of taking charge of the case. At this time I considered the question of recommending them to try the application of electricity to the interior of the uterus, and I thought seriously of recommending it strongly; but looking back upon my own experience with refer-
ence to electricity, I did not feel at all confident under the very indefinite conditions which the case presented, and I meanwhile thought it desirable to use such hemostatics internally as would be suggested. In looking over the field, I concluded that without any doubt whatever ergot and iron had been used as fully as it would be desirable to use them, and the first thing I thought of was the common remedy of vinegar. I administered the vinegar for two or three days without any advantage whatever, internally; I then descended, perhaps I might say, to the use of hamamelis, and in order to get the genuine article, I recommended Pond's extract. That did not have any influence at all. There seemed, however, to be a sort of periodic character about it, and I used quinine for a few days, without any advantage; and, in fact, it seemed to me from the report that the flow became greater. Then I resorted to turpentine, 10-drop doses in an emulsion, and after she had taken two doses of this turpentine, there was a sensation of strangury, and it was stopped for one day. Information was given me that with that strangury there was a manifest diminution of the flow. I concluded that it was fair to infer that the organs in the pelvic regions were, in all probability, susceptible to the turpentine, and I recommended its use in smaller doses and added to it some camphor water. She continued to use the turpentine, and the flow continued to diminish; there was no longer any sensation of strangury after she had used the camphor water in conjunction with it, and on Saturday last I was informed that the flow had ceased altogether. She called at my office, and I found that the pulse, which had been previously 100, was reduced to 80, and the peculiar sensation of palpitation which she had complained of as existing before was almost completely removed, and she was feeling in every way a good deal better. I heard from her again on Tuesday: she was then on her way to one of the suburbs, with the understanding that I should hear from her again to-morrow. I feel satisfied that the flow has not returned, otherwise I should have heard.

In looking over the case in the first instance, I remembered that some of my brother ophthalmologists are curing everything, from epilepsy to corns, with glasses or tenotomy of the internal recti, and I examined the eyes to see if I could find anything of interest, but I could not see anything worthy of attention. I also examined the blood microscopically to see if there was any peculiarity there, but could find none. The use of the turpentine seems to have had the special advantages of securing, at any rate, a temporary cessation of the hemorrhage.

**Dr. A. Reeves Jackson.**—I am very much pleased at the interest which has been manifested in regard to this subject. These cases which I have reported are not the only ones which I have failed to cure, but I had accurate notes of these, and I considered them sufficient for the purpose of bringing the matter before the Society.

The existence of fibroids as a probable cause in some of these cases, as suggested by Dr. Nelson, had occurred to me. The question of possible pregnancy also arose, and I made such inquiries and investigations as I hoped would lead to a settlement of the latter point especially. We know that in fibroid growths of the uterus hemorrhage becomes by-and-by a prominent symptom, and usually it is the one which first calls the attention of the patient to her condition; and in these cases we usually have no
trouble in the diagnosis where there is present either a polypus or a fibroid of sufficient size to alter the shape of the uterus or to be felt within the cavity of the organ. I can conceive how a very small fibroid, incapable of detection by ordinary methods and ordinarily skilled hands and fingers, might produce hemorrhage, but would it yield to the medical treatment of a fibroid? If it did not, we should hardly feel justified in making a laparatomy to discover the existence of a fibroid that presented no other evidence of its existence than hemorrhage. It is true that patients nowadays submit to laparatomy when they are urged to do so; yet the one who urges should have some kind of objective reason upon which to base his advice. In none of these cases could I detect any change whatever in the shape of the uterus. The fact is that, when we find a fibroid as the cause of hemorrhage, it is already surgical. It is large enough sometimes to have existed, with their slow rate of growth, for many years, and yet hemorrhage has probably not been present until the latest part of the history.

Disease of the Fallopian tubes I have no doubt is a frequent cause of persistent uterine hemorrhage. Primarily, the blood may have its source in the tube; later, by overaction—by the mere bleeding—there is produced manifest disease of the endometrium, as in the case last cited. But, granting this, inasmuch as we can only reach the uterine lining anyhow by our topical treatment, even if we have a suspicion that there may be tubal disease, it does not aid us in deciding what to do for it. The ethics of the condition are in doubt.

Allusion has been made to the death of the third patient. She died of peritonitis following the operation. I have reported it in order to call attention to the danger of what is usually considered a simple and safe operation. In this case, the operation was done under the strictest antiseptic precautions; every care was taken to avoid any danger from that source. Unfortunately, I was obliged to leave the city shortly after the operation, leaving the patient in an unsatisfactory condition, temperature 102°, rapid pulse, red cheeks, and evident high constitutional excitement. On my return I found her still worse, and shortly afterwards she died of peritonitis, whether septic or not I do not know. The dilatation was mechanical; was not made by tents, which I consider a dangerous method of treatment.

I did not mention in the paper an important fact in the subsequent history of the last case. It was this: During the last examination I made, I detected a distinct swelling at the side of the uterus, apparently in the Fallopian tube. Then I suggested that if the patient did not get better, here was a reason why we might properly make a laparatomy—not for the hemorrhage, but for the swelling which was possibly the cause of it. The curettage on three occasions certainly had a very satisfactory effect. On one occasion, for four months subsequent to the operation the patient had no bloody discharge whatever, natural or unnatural, which would seem to indicate that, at that time at least, the cause of the hemorrhage was in the uterus, and that the effect of the remedies applied more thoroughly after the dilatation had a controlling influence for a long time. This is very satisfactory to a patient who has been having a profuse or prolonged hemorrhage. This patient was under the care of excellent men in Canada who, so far as I know, never detected any swelling, and I infer from this fact that the latter symptoms were of comparatively recent appearance.
The nitric acid, which I applied in one case, I formerly used a great deal more than I do now. My method of using it is that recommended by Athill some years ago. The uterus is previously dilated, and when sufficiently open, the pure nitric acid is passed into the uterine cavity on an ordinary cotton-wrapped applicator. I place the patient on her back, introduce a perineal depressor, seize the anterior lip of the uterus, draw the organ down, and surround it entirely with cotton which has been dipped in a solution of bicarbonate of soda. The applicator is dipped into the acid, passed into the uterine cavity, and held there for a few minutes. It is then withdrawn and the vagina syringed until all fuming ceases. Then I remove the tampons from about the cervix, and another tampon saturated in glycerin is placed over the os uteri. Such was the method used in this case. The nitrate of silver I applied in this way: A few grains of the crystal are melted in the bottom of a test tube. A silver uterine probe is dipped into the fluid and withdrawn a few times, until a bead is formed on the end of the instrument the size of a grain of rice. This is passed through a speculum up into the interior of the uterus, and held there for a few minutes, and slowly drawn out so as to come in contact with the surrounding membrane. This method has been recommended as very effective in chronic cases of menorrhagia. The hydrastis I have used a good deal. Loewenthal has reported several cases in which he had used hydrastis for preventing menstruation absolutely in persons to whom it was injurious: chlorotic and anemic patients, he affirms, have been effectually cured by the use of hydrastis, given so as to absolutely obliterate the function of menstruation. I have never used it for this purpose, but I believe in the principle. I do not believe menstruation, of itself, does any woman any good.

Prof. Earle asks about the relative frequency of inflammation before and after the advent of antiseptics. I am hardly prepared to answer that question. If the theory of septic inflammation is correct, all diseases resulting from the ordinary operations ought to be less, if antiseptic precautions are used. I remember but three cases of ordinary operations in which death followed. Inflammation was present in all of them, and it may have been of a septic character, and so may it have been in this last case which I have related. But the patient complained of pain immediately after the operation, and she was never free from pain until the time of her death, six days later.

Ergot I have not found to be beneficial in any condition of the uterus involving hemorrhage, unless it be subinvolution during its soft stage where the uterus is large and heavy. In those cases I believe ergot is an excellent remedy. That condition was not present in any of these cases. Whether in one of them the cessation of menstruation for two months indicated pregnancy, I do not know, but there was no other evidence of it; there was no fetus observed; nor was the history that of an early abortion, so that the single symptom of absent menstruation in a woman who was irregular at times was not so significant as it might be under other circumstances.

In the case stated by Dr. Parkes, the disease of the ovary was found, as I understand, after all other theories and much treatment had been exhausted, and it was supposed that there might be some disease somewhere in the pelvis which could only be detected and possibly removed by laparotomy. But it is doubtful whether
this would be a safe rule to follow even when all technical means and all known remedies for persistent hemorrhage have failed; if the woman is not endangered by the hemorrhage would it be right to subject her to any risk of her life for a possible cure? If life were jeopardized there could, of course, be no question as to the propriety of laparotomy. This, however, was not the condition in any of the cases which I have related.

Dr. ADDISON H. FOSTER read the following paper, entitled

A CASE OF HYDRAMNION.

December 11th, 1873, Mrs. W. English, aged 27, was taken in premature labor at the eighth month with her third child.

On reaching the case, the abdomen was found enormously distended, the pains regular but feeble; the os fully dilated; the membranes intact but firm; the presentation doubtful.

In the interval of pains the finger was carried high up as possible anteriorly upon and through the sac, and held there to retard the discharge of the fluid, in order to prevent prolapse of the cord and sudden emptying of the uterus, and to lessen the danger of hemorrhage.

The patient being upon an oil-cloth, scantily covered, a large empty tobacco pail, holding fifteen quarts, was seized and held under the overhanging cloth, until it was filled brimful with normal appearing amniotic fluid; some fluid was lost in the bed and on the floor. With three or four pains, a small well-formed but immature child was expelled that lived but a few hours.

The placenta was adherent on one side, requiring forcible digital separation from its site. It was small, being thin and fibrous on the adherent side. There was no unusual hemorrhage following, as the uterus contracted firmly and remained so. The patient made quite a prompt and normal recovery. There had been very little edema of the limbs and no history of suffering from unpleasant symptoms, excepting from the distention which came on principally the last two months. Her former labors had been normal. There was no history of any specific disease. I made no test or examination of the fluid or microscopical investigations of the placenta, as would now be done, with an awakened interest in the various placental phenomena met with.

From the cases on record, the amount of fluid that has occasioned trouble varied from ten to sixty pounds, as a rule, though five pounds has occasionally done so.

In the case I have cited the amount could not be far from forty-five pounds.

In regard to the prognosis, that for the fetus is always very serious. For the mother, not so serious, except in acute hydramnion, although the danger of uterine inertia and hemorrhage in all cases is considerable.

DR. SAWYER.—There is one point in connection with the causation of these cases that was called to my mind by some remarks
that the senior Dr. Byford made in the early history of this Society on this subject. He called attention to the fact that hydramnios was so frequently associated with monsters or the acephalous fetus. That statement called to mind that I had seen two or three cases of spina bifida that contained enormous quantities of fluid, and it occurred to me then that the arachnoid membrane, which is open in the acephalous fetus, is capable of secreting an enormous amount of fluid. Is it impossible that the fetus does really contribute most of this excessive fluid? I have seen one case of hydramnion with a woman pregnant for the third time.

I remember one case—the one I have already alluded to—in which labor that I thought was surely begun was greatly interfered with by the feebleness of the uterus, due to its great distention, and in that case I introduced a catheter through the cervix high up and drained off all that I thought necessary, withdrew the catheter and there was no further drain, and the labor progressed rapidly and favorably to the injury of neither mother nor child. I know it is a simple thing to put a male catheter, when the os is patulous, as high up as you please and rupture the membrane and tap the amniotic sac high up.

Dr. A. H. Foster.—I find in my reading of the limited amount of literature I have that transudation may be partly fetal and partly maternal. Of course, if the transudation was from the blood before it reached the fetus it would be maternal. For my part it is not very clear how to explain all this. One author stated that it was derived from the uterus. But Ramsbotham says, in the discussion on the origin of the liquor amnii, that in extra-uterine pregnancy there is the usual amount of liquor amnii in the sac the same as in the uterus. It could hardly be derived from the uterus. In regard to the treatment of this case, I attended her in her second pregnancy, and was not aware of her third until I was called and found her in the condition I did, as she did not expect to have to call me for another month, so I had to act at once. I should think that the idea of aspiration would be a good one. If I should be called to a case early enough and find these conditions, I should be very happy to have Dr. Earle with me to try the experiment.

Dr. Edward B. Weston read the following paper, entitled:

A NEW PROCEDURE IN CASES OF ANTICIPATED COMPLETE RUPTURE OF THE PERINEUM.

On the 4th day of last month (October) I was, for the fourth time, called to attend Mrs. H. in labor. She is a woman somewhat below the average size, and has rather a narrow pelvis, while her children are all large at birth.

At the birth of her first child, a boy who weighed twelve pounds, she received a complete laceration of the perineum.

The second child, also a boy, weighed nine and one-half pounds, and the perineum was torn to the anal sphincter. The third pregnancy was terminated in the sixth month by unknown cause. The child was of course small, but delivery took place very rapidly, and there was again a rupture, though not to the same degree as in the second labor.

On visiting the patient at the beginning of her last labor, an ex-
amination showed a well-restored perineum, and a child seemingly very large presenting in the first position.

Meditating over the situation, remembering what had taken place in her previous labors, I feared a complete rupture would again occur, however well I might apply the various methods or procedures for protecting the perineum. The thought came to me that it would be well to introduce a deep suture before the laceration occurred, and before the head began to press upon the perineum, so that if complete rupture did take place, I should have one suture already in place, by means of which I could easily bring the parts into accurate apposition, and which could in a measure be used as forceps or tenaculum, and be of great service in whatever after-operation might be necessary. I could see no objection to the step; so with a long curved needle I introduced a silk suture a little more than half an inch to the right of the anus, and carried it up about an inch and a half in the recto-vaginal septum, and brought it out on the left side at a point corresponding to its point of entrance. I left either end six inches long and tied them together. Again there was a laceration, though not a complete one. The child, a boy, weighed eleven pounds. Objections will, of course, be raised to the procedure which I have suggested. Let us consider a few of them.

One objection will be that we cannot tell when we are to have a complete rupture. We cannot always know in advance, and here the unexpected often happens. But in some cases we feel very sure it will occur, and it is in these cases that the stitch should be introduced. And in cases of doubt the stitch had better be placed, as it will in any event do no harm. Another objection may be that, if rupture should take place, we cannot tell what direction it will take. In the great majority of cases, externally, the laceration occurs practically in the median line. So that whatever its internal course may be, all the advantages claimed for the stitch will be obtained. Again, that should the procedure be recognized as proper in certain rare cases, it will be abused by too frequent use. And that, with the stitch in place and with confidence in the future assistance to be derived from it, our vigilance in protecting the perineum might be relaxed. To these objections we can only say that the conscientious accoucheur would not be influenced by them.

Some will suggest the danger of sepsis. We do not believe this need be feared. If antiseptic precautions have been observed, and the stitch buried in the tissues through its whole length, the increased danger will be nil. If, fortunately, rupture does not occur, the stitch can be cut short at one side, withdrawn, and no injury will have been done. Others will say that, even should complete rupture take place, the physician should be skilful enough to repair it by some one of the old methods. This is true; but the fact remains that there are all degrees of surgical skill, ranging from no skill to that of the highest degree.
It may also be said that the obstetrician who would introduce the stitch before laceration occurred would be the very one who would have least need of it afterwards. We grant it. But the majority would prefer to have the stitch in place, rather than to begin repairs without it, the parts being not only lacerated, but often so contused, swollen, or retracted that their normal relations can scarcely be made out.

If, by the procedure suggested, some one may be enabled to repair a complete laceration of the perineum, which otherwise would be left for a gynecologist to repair after the patient had suffered, mentally as well as physically, for weeks or months, we think it cannot be objected to. And however expert an operator may be, it is true that the easiest, simplest way of obtaining a desired result from operative procedure is the best way.

These are the chief objections which have occurred to us as likely to be raised. The advantages of the procedure have already been sufficiently indicated.

Dr. H. P. Newman.—I would suggest as a substitute for this manner of procedure one that has been long in use, namely, episiotomy, or bilateral incision of the vulva.

It has served me well in one or two instances.

It has this obvious advantage, that it allows of tearing laterally in such a way as not to injure the perineal muscles, or weaken the recto-vaginal wall.

In this way we can also prevent complete laceration, where some tearing is inevitable.

I should regard Dr. Weston's method as a most admirable means of placing the initiatory stitch, where rupture seems imminent, although I cannot see how it could well obviate the tear.

Dr. E. W. Sawyer.—I would like to say in connection with making the slight lateral incision, or episiotomy, that it does often prevent the laceration from occurring in the median line. I have made these incisions, one on either side, in nearly every forceps case in primiparae and I never saw the least harm come from it. In some instances, when I thought the perineum would be extensively torn, the laceration was really very short and insignificant. I think the suggestion of Dr. Weston is most excellent; it is in exemplification of the old axiom that a stitch in time saves nine, and I, having attempted to repair an entirely lacerated perineum more than once immediately after parturition, know something of the difficulty of introducing a deep, properly applied suture, and if I could have the first suture introduced when the parts were in their normal relations, I should consider that I had overcome the greatest obstacle in immediate repair. I do not see one objection to the introduction of the suture.

Dr. Jackson.—The suggestion made by Dr. Newman is, I think, not a very new one. The two incisions should not be lateral but diagonal, so as to pass about one-half inch on either side of the fourchette directly outward, going beyond the rectum on either side. I have never used it, but it seems to me that in a case where complete laceration seemed inevitable, it would certainly be a preferable procedure to allowing the perineum to rupture. I did not understand Dr. Weston to say that the stitch recommended by him
would prevent the laceration, but that it would aid in its repair, and from this point of view I regard the suggestion as a very valuable one. It would certainly simplify the primary operation for rupture of the perineum.

Dr. E. B. Weston.—I have nothing further to say, except that I did not propose, as was intimated by the first speaker, taking this stitch to prevent anything at all. It was not suggested as a preventive, but simply as an aid, in case a laceration should take place after all you had done, whether by episiotomy or any other method which you could think of, in bringing the parts together.

Dr. Bayard Holmes presented specimens of

CULTURES OF BACTERIA FROM THE URINE OF A CASE OF NEPHRITIS AFTER SCARLET FEVER.

I have a few specimens I would like to present to the Society. The specimens are of such a character that while they may not be in themselves particularly interesting, I hope they are of sufficient account, in connection with the paper I wish to present at the next meeting, to deserve a moment's attention. My paper is upon the subject of "Secondary Infection in Acute Infectious Diseases of Children." One of the diseases which I treat of is scarlet fever, and as the complication that is perhaps the most alarming and serious in scarlet fever is nephritis, I have taken a good deal of pains in studying the subject. Through the kindness of a neighbor physician I had a chance to examine the urine of a case of nephritis after scarlatina, and to make a few cultures from it. On the first day that any symptom of nephritis was noticed there was a very large amount of blood in the urine and I took pains to collect some of it in a perfectly sterilized flask after the first part had passed away, so as to get it in as nearly a sterile condition as possible. I took it home and planted the sediment in a few tubes of gelatin. The gelatin in a very short time showed small colonies growing along the track of the needle. From isolated colonies, the second series of tubes was planted, and they begin to show a characteristic growth. Only one of the first series of six tubes remains sterile, and only two of them begin to show any signs of mixed infection. The remaining three tubes are evidently pure cultures of the Streptococcus pyogenes of Rosenbach. This is the microbe that produces the enlargement of the cervical lymphatics early in scarlet fever.

I present these specimens because they are short-lived and in the hope that I may be afforded the opportunity of examining, under favorable circumstances, the urine of a few boys suffering from this complication.

Dr. R. Tilley.—Are these specimens from different stages of the disease?

Dr. Holmes.—They are separate cultures from the same specimen of urine.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, November 7th, 1888.

JOHN WILLIAMS, M.D., President, in the Chair.

Specimens. Dr. Cullingworth.—Localized sloughing of fundus uteri, due to acute septicemia after abdominal section.

Dr. H. Spencer.—1. Sloughing fibroids of uterus; 2, An anencephalous monster with hernia of the intestines in the left loin and hernia of the liver (which presented at birth) in front of the abdomen.

Dr. William Duncan.—1, Placenta from a case of Porto’s operation; 2, Ruptured extra-uterine fætation.

ON MYOMA AND FIBRO-MYOMA OF THE UTERUS AND ALLIED TUMORS OF THE OVARY.

This communication was read by Mr. Alban Doran.

Myoma of the uterus is very common, fibroma of the ovary rare. The study and comparison of these tumors involve the distinction between true muscle-cells and certain cells found in fibrous tissue and in sarcomata. Some pathologists declare that there is no true distinction. Certain recognized types, such as the plain muscle-cells of the walls of blood-vessels, and the muscle-cells of the pregnant, non-pregnant, and fetal uterus are compared in this memoir with the cells of tumors evidently made up of fibrous tissue, or evidently sarcomatous, or otherwise malignant. Each type is illustrated not only by verbal descriptions, but also by microscopic preparations and accurate drawings executed by a competent artist.

The histology of the uterine wall is not a very complicated subject. Plain muscle-cells mixed with more or less connective tissue, and arranged in bundles, are the chief constituents of the wall, and extend not only to the tube, but also to the round ligament and the ovarian ligament, true processes of the uterus. A non-malignant tumor made up of muscle-cells very commonly develops in the uterine walls, or may form in one of the uterine processes. This is myoma of the uterus. From the uterine connective tissue white fibre may be developed, hence the origin of fibro-myoma of the uterus. Klebs’ and Kleinwächter’s theories are discussed. The muscle-cells of a myoma are usually larger than those of the uterus in which it grows. Hence in a myoma removed during pregnancy they appear very large. The compar-
ison of the muscle-cells with the smaller cells of similar appearance found in the white fibrous tissue in a fibro-myoma is important, especially in relation to suspected cases of myoma of the ovary.

The histology of the ovarian stroma in woman is, on the other hand, very unsettled. Ideas on the subject are too often gleaned from the study of animals' ovaries. Harz's researches show how this study may lead to grave fallacies. The tissue of the hilum and parenchyma is described, and allowance is made for changes in the follicles (corpora fibrosa of Patenko, etc.). True fibrous tissue is naturally abundant in the tissue of the hilum (paroöphoron); this fact is enough to account for fibroma of the ovary. Muscular tissue is found amidst the parenchyma of the ovary in the coats of its vessels, and also in free bundles derived from the ovarian ligament, a process of the uterus. The connective tissue of the ovary around the follicles (stroma of the parenchyma as distinguished from the tissue of the hilum) is variable in character, but as a rule of a young type. Common changes due to inflammation must be borne in mind.

Fibroma of the ovary is a well-known but rather rare disease. Its development is accounted for above. Sarcoma of the ovary is not so rare, owing probably to the frequent abundance of "young" connective tissue. Specific spindle-cells of a sarcoma are compared with the connective-tissue cells in fibroma. The existence of fibro-myoma of the ovary has been disputed. As muscular tissue naturally exists in the ovary, the development of myoma can be accounted for. The difficulty of distinguishing muscle-cells from certain cells in the other tumors described in this paper is admitted, yet by comparing a fibro-myoma of the uterus with a tumor of similar characters growing in the ovary it appears that this distinction can be made, and hence there is little doubt that a fibro-myoma may develop in the ovary. At least, plain muscle-cells, the fusiform cells of fibrous tissue, and the specific spindle-cells of a sarcoma may in many cases be distinguished from each other.

Dr. Herman observed that Mr. Doran had looked upon Gusserow's aphorism as philosophical rather than scientific. Gusserow had insisted that the more a uterine tumor was a simple hypertrophy of uterine tissue, as in pregnancy, but localized, the more would plain muscle-cells predominate. The more fibrous induration of the interstitial connective tissue took a share in the process, the more nearly would the tumor resemble a pure fibroma. Was this aphorism true?

Dr. Horrocks doubted that the cells could be distinguished from each other in all cases of solid fibroid tumors of the ovary and uterus. Puzzling microscopical appearances were occasioned by the intricate arrangement of the fibres and groups of cells in these tumors.

Dr. W. S. A. Griffith noted how the mixed connective tissue of the normal ovary strongly resembled spindle-celled sarcoma
when inspected under the microscope. He asked if what has been described as sarcoma of the ovary was sarcoma at all. It appeared to be rather a general enlargement of the stroma. On account of the doubtful nature of the question, the clinical history of every case of solid ovarian tumor should be carefully noted by pathologists.

Mr. Alban Doran held that Gusserow's aphorism was a self-evident proposition. The smallest interstitial fibroids were the purest myomata. He agreed with Dr. Horrocks, but he had appealed from the known to the unknown throughout his memoir. He had compared sections of different tumors where the fibres ran in the same direction. In reply to Dr. Griffith, he recognized the resemblance of ovarian connective tissue to spindle-celled sarcoma. He was diffident about the theory that some ovarian tumors were composed of normal but embryonic connective tissue. These tumors were hardly malignant; but a specimen which he exhibited at the Pathological Society in October tended to prove that arrest of development of the connective tissue caused the development of a very malignant growth. Mr. Doran had carefully noted the clinical history of the cases which he described. It was hard to distinguish normal ovarian tissue in adults, owing to the cicatrices of corpora lutea and other sources of confusion.

ON LOCKING, RETROVERSION, AND STRANGULATION OF UTERINE FIBROIDS IN THE PELVIC EXCAVATION.

Dr. J. Matthews Duncan, the author of this paper, stated that locking in the pelvic excavation implied impaction not the result of adhesions. Its effects might be produced by pressure into the pelvic brim of a tumor too large to pass into the excavation. Retroversion of a fibroid closely resembled the retroversion of the gravid uterus in its characteristic form. The symptoms and treatment of the two conditions were nearly alike. Strangulation, with locking, of a fibroid, with or without retroversion, was a rare accident. A case was described. Dr. Duncan had not seen a similar case of strangulation of or by a gravid uterus.

A CASE OF LOCKED FIBROID, TREATED BY SUPRA-VAGINAL Hysterectomy.

Mr. Meredith read this case. A single woman, aged 36, was admitted into hospital under Dr. Percy Boulton, last May. A uterine tumor was firmly impacted in the pelvic cavity. For nine months the pressure of the growth on the neck of the bladder had led to frequent attacks of complete retention. The recurrence of these attacks had latterly been avoided only by relieving the bladder at regular intervals of not less than two hours, both by night and by day. After unsuccessful attempts to dislodge the tumor from the pelvis by vaginal taxis, the case was transferred to Mr. Mederith's care, with a view to abdominal section. At the operation, performed by him on June 2d, considerable difficulty was experienced in extracting the impacted mass, which together with the uterine body and its appendages was subsequently re-
moved by a supra-vaginal hysterectomy. The tumor weighed two pounds and was of the size of a large cocoanut, and consisted of a densely packed mass of fibro myomatous growths developed in the posterior wall of the uterus. The after-progress of the case was uninterrupted and the patient made an excellent recovery, leaving the hospital exactly six weeks from the date of operation, with the abdominal incision soundly healed throughout.

In the discussion on the above papers, Dr. Gervis drew attention to the usefulness of a suitable pessary in preventing a recurrence of the downward displacement of a fibroid after it had been pushed up out of the pelvic cavity. He felt satisfied with hydrostatic pressure in cases where the taxis had failed, noting a case in his own practice, resembling Mr. Meredith's.

Dr. Graily Hewitt found that upward pressure and properly adapted vaginal support often proved sufficient to relieve impaction. In some cases, impaction of a large fibroid was slow to cause difficulty in micturition; in others that trouble rapidly set in when the impacted tumor was small. In a very marked case, a fibroid growth at the back of the uterus occasioned sudden impaction with retroversion, and enormous distention of the bladder. Dr. Hewitt thought that cases of anteversion with hypertrophy of the uterus were sometimes mistaken for fibroids. In one instance, proper diagnosis and appropriate treatment cured a case of this kind after several years of suffering. In another case, where an egg-shaped tumor grew anteriorly, a little to the right side, a well-adjusted pessary was very successfully used and the tumor raised out of the brim, where its pressure had rendered the patient a complete invalid.

Dr. Lewers referred to a case where a uterus retroverted by fibroids caused retention of urine in a woman aged forty-nine. The urine was drawn off and the uterus replaced bimanually; then a large ring pessary was introduced. This was done two months ago. Dr. Lewers had seen the case recently and found the uterus in good position; the patient had no trouble with her water. He mentioned this case, because he gathered from Dr. Duncan's paper that, in similar instances, replacement, even when possible, was usually followed by recurrence of the malposition.

Dr. Aust-Lawrence (Clifton) found that in one case of retroflexed gravid uterus, and in two of "locked fibroids," he was enabled to effect reduction by keeping the patient in bed in the semiprone posture for twenty-four hours. Without this kind of treatment, repeated attempts at replacement should never be made.

Dr. Champneys advocated hydrostatic pressure exerted by gravitation. He had found it succeed where taxis had failed, and he always used it after the failure of taxis before proceeding further. The mode of using it had been described in the Lancet some years back. It was conveniently employed by means of a child's air-ball connected with an irrigator. Any desired amount of even and continuous pressure could be applied and removed at will. A fibroid might be impacted for many reasons, such as bulk, edema, adhesions and expansion of the broad ligament. An air-tight adaptation was an obstacle to replacement; in raising a tumor in abdominal section a loud sucking noise was often heard. Hydrostatic pressure got rid of some of the edema, adhesions could not be rudely torn as by taxis, and the broad ligaments would be un-
affected. Thus the method furnished a valuable differential prognosis as to the possibility of replacement. He did not say that the tumor was replaceable in Mr. Meredith's case, but he should himself have tried hydrostatic pressure before resorting to abdominal section.

Dr. Priestley remarked that Dr. Duncan's experience proved that, whether the pressure were made with the fingers or with hydrostatic bags as Dr. Champneys had suggested, and aided by the genu-pectoral position, difficult cases of impacted fibroid might be overcome provided that the pressure was made in the right direction for a sufficient period. Dr. Priestley thought that the alleged frequency of absolute impaction was overrated. The symptoms produced by pressure almost amounting to impaction were more frequent; these were, retention of urine in certain cases, incontinence of urine in others. He had recently seen a patient who had a bulky fibroid, and was constantly losing large quantities of limpid fluid supposed at first to be from the uterus, but ultimately proved to come from the bladder. Not only retroversion of a uterus bearing a fibroid could cause impaction, but also some forms of fibroid without backward displacement, particularly those ovoid forms in which the lower segment fitted closely into the brim and cavity of the pelvis. He had sometimes been surprised how small a degree of force, exercised in pushing up the tumor from below, would bring at least temporary relief. Prolonged and persistent efforts, with every precaution, should always be made to reduce the tumor, as Dr. Duncan advocated, before so grave a step as abdominal section was undertaken; although Mr. Meredith's case had proved so signal success.

After some observations in reply by Dr. Matthews Duncan, Mr. Meredith stated that the absolute fixation of the pelvic tumor in his case, resisting all the repeated attempts to displace it, afforded ample justification for abdominal section as the only means of relieving the patient. In his case, atmospheric pressure had not much to do with the difficulties which he encountered. After partial dislodgment of the firm, incompressible tumor from the pelvic cavity, extraction was found to be impossible until some amount of enucleation had been practised on the left side. This fact alone proved conclusively that nothing short of operation could have proved successful in affording even temporary relief to the patient's sufferings.
TRANSACTIONS OF THE GERMAN GYNECOLOGICAL SOCIETY.

BEING SECTION XVIII. OF THE SIXTY-FIRST ANNUAL MEETING OF GERMAN NATURALISTS AND PHYSICIANS.

HELD AT COLOGNE, SEPTEMBER 17TH TO 23RD, 1888.

(Translated from the Centralblatt für Gynäkologie.)

(Continued from p. 192.)

C. Thiem (Kottbus) read a paper on

A PERI-URETHRAL SARCOMA.

He exhibited the excellent illustrations executed by Dr. Simon of the macroscopic and microscopic preparations of a peri-urethral tumor extirpated by himself two years previously from a woman aged 56. The urethra, otherwise intact, passes through the upper part of the very firm tumor, which is the size of a green walnut. The course of the urethra is shown by a wooden splint carried through it and depicted on the lateral view. The carunculous nature of the skin is visible in the enlarged vestibule, in which the prepuce of the clitoris appears almost obliterated, as the clitoris itself is altogether merged into the tumor. The latter consists of scattered epitheloid larger and smaller cells with distinct nucleus, and of connected cell-groups, around which the intercellular connective tissue is deposited almost like a capsule. The intercellular substance consists, to be brief, of connective tissue in all stages of development, partly infiltrated with small cells. The point of origin of the cell proliferations must be sought in the endothelium of the lymph spaces. The layers nearest the skin and urethra show a normal structure, thus excluding the possibility of the growth having started from these organs or their glands. The tumor, therefore, is characterized as a sarcomatous formation belonging to the connective-tissue group—if we wish to retain the name, as an endothelioma.

He also read a contribution on

THE INDICATION FOR VAGINAL HYSTERECTOMY, WITH NOTES ON THE CONDITION OF THE UTERINE MUCOSA IN CANCER OF THE CERVIX.

Foreign surgeons have long been opposed to this operation, which in its present form was first devised by Germans, and mainly performed and perfected by German operators. At the present time, however, a material change seems about to occur in
the technique by the adoption of forcipressure, the procedure of the French scientists Péan and Richelot, in the place of hemostasis by ligatures.

The speaker hoped that, with the general application of this method, which he believes to be simpler, easier, and shorter than the one hitherto in use, the total extirpation will, in the first place, be performed by a larger number of operators, and, secondly, that the limits of its indication will be extended.

Most authors were agreed that in carcinoma total extirpation must not be done when the parametria and the other adnexa are clearly infiltrated with cancer; that the result was too unsatisfactory, and out of proportion to the gravity of the operation. Fritsch has defined his standpoint in the sentence: "to perform hopeless operations is an inhuman sport." But we may assume, for the honor of German gynecologists, that they have operated only quite exceptionally in such cases. At all events, inhuman reasons cannot be alleged in the cases of men like B. Schultzze and Brennecke, both of whom, but especially the latter, are well known to have pleaded for confining the indications for total extirpation in carcinoma within the limits of technical possibility.

Olshausen has demonstrated that in Berlin relatively more operable cases of carcinoma come under treatment than in Halle. This fact is most noteworthy. In Berlin, with its large number of prominent gynecologists, every woman knows where to apply, when, for instance, she suffers from atypical uterine hemorrhages; hence inoperable cases are relatively few. In Halle, the conditions are less favorable, and as for Jena and Breslau, Schultzze and Fritsch complain of the alarmingly large percentage of inoperable cases. In small country towns the prospects are deplorable. In the first place, the women bear the hemorrhages for months without complaining to anybody; then they ask older women who, of course, assure them that it is the change of life; then a midwife who professes some knowledge of gynecology is consulted; and finally the family physician is asked to prescribe something for the hemorrhage; and if he, as is unfortunately the case at times, complies without making an examination, more months pass before the woman comes to the operator; usually when it is too late. When in such terrible cases total extirpation is performed, not with the hope of affording the woman radical cure, but as the safest and best palliative relief, it truly cannot be considered an inhuman measure. The very large number of other palliatives in so-called inoperable cases of carcinoma proves, as does the multiplicity of infallible remedies in diphtheria, that there is no panacea against these diseases, and that in a long series of cases all together are of no use. In carcinoma, before a satisfactory point is reached with any of the palliative measures—for instance, cauterization with concentrated chloride of zinc—so long a time elapses that the relatives do not leave the patient in the institution until its con-
clusion, especially when they are informed that actual operation has not been done. So long as irritation and tamponing of the cancerous cavity with disinfectants can be done according to rule with the aid of the speculum, the women are fairly comfortable; but whenever, after discharge from the institution, this manipulation is left to the patient, or to the equally unskilled midwife, the old misery recommences. Many sloughing cases of carcinoma constitute _noli me tangere_, even for the usual palliative measures. As soon as they are touched, proliferation and sloughing become excessive.

After total extirpation we generally attain, in from three to five weeks, a cicatrization which frequently becomes so firm that in relapses there is no longer any ulceration, but only a formation of tumors in the cicatrix. The women then die of secondary carcinoma of internal organs, or of general cancerous cachexia, and frequently are spared to the last that most horrible of all symptoms—sloughing. If, after certain palliative measures, isolated instances of improvement of prolonged duration, or even apparently complete cure have been attained, this proves, in the author's opinion, only that such cases were not inoperable, and would have had an all the more favorable issue after total extirpation. Two years ago the author performed a total extirpation on a woman, although the left parametrium was immovably infiltrated and the patient had been refused operation four months before in some out-of-town gynecological clinic. This woman is still alive, and enjoys good health. Even should she still suffer a relapse, the speaker would count the case among the best results from all his total extirpations, because a similar effect is unfortunately not always to be reported after operations undertaken with apparently good prognosis. But should she remain permanently cured, this would prove that we are not always able to distinguish old inflammatory parametric thickenings from cancerous infiltrations. Then it would be safest for a woman to try the total extirpation at all hazards. The speaker will continue to do this operation, even in so-called inoperable cases, whenever it appears to him technically feasible, and he hopes that many others will do the same, particularly where the operation appears comparatively simple.

A new indication is defended by the author in connection with a report stating that six months before he had removed the uterus from a woman aged 38, because he was unable in any other way to arrest quickly enough a uterine hemorrhage seriously jeopardizing life. The woman had aborted five times, twice in rapid succession. She came into the speaker's institution with septic fever and almost exsanguinated by the hemorrhages. On attempting to stretch the cervical canal with Hegar's dilators and to pass the curette, the blood spurted in a thick continuous stream from the uterus, even after circumscribing the broad ligaments. Sponge tents and strips of iodoform and bismuth gauze were expelled in a little while, and the flooding continued.
Though the hemorrhage stopped after suturing the external os, a violent rigor made the removal of the ligatures necessary. After that, and renewed attempts at curetting, the hemorrhage became again so abundant that every moment seemed to be the last. Total extirpation was performed after again suturing the os. The woman recovered after having been given several transfusions of salt solution. In the lower part of the uterine cavity was a placental polypus, the size of a small apple; above it, close to the fundus, was a second tumor the size of a date, one-half of which projected free into the cavity and showed several large eroded vessels on its surface; the other half of it extended into the uterine wall, or, rather, appeared to have proliferated from it. Microscopical examination proved it to be an angio-sarcoma which doubtless had been the cause of the profuse hemorrhages and the numerous abortions.

Although the sequel proved that the operation had been absolutely necessary, it had been undertaken at the time only for the arrest of the hemorrhage which immediately threatened life, and the indication will have to be accepted for such extremely rare cases, just as a surgeon is permitted to amputate a limb if he can master a hemorrhage in no other way. The third part of the speaker’s paper referred to a complication during convalescence after the total extirpation. Wedge-shaped infarctions occurred in two patients over sixty years old—in one, twice, in the lower lobes of the right and left lungs; in the other, once, in the latter position. One of the patients suffered from irregularity of the heart and is said to have had a slight attack of apoplexy thirty years previously; the other was a robust woman with a normal vascular system. Without entering on a discussion of the reasons to which this complication was due, and though both patients recovered, the speaker advised to bear this possibility in mind, in the case of older persons. In conclusion, the author stated that he, with his assistant Dr. Gutsche, had made a microscopical examination of nine uteri which he had removed for cancer of the cervix. In three, the mucosa was largely macerated; these will be excluded from the consideration, although they presented appearances corresponding to the others; in one, the cancerous process had extended into the uterine cavity. In the remaining five were found those alterations in the corporeal mucosa which Ruge termed endometritis glandularis hyperplastica at the last Gynecological Congress—a condition demonstrated by Eckhardt likewise on several uteri extirpated by Kaltenbach and reported at the same time. The sarcomatous degeneration of the corporeal mucosa with a relatively intact condition of the cervical mucous membrane which Abel claims to have found in some uteri extirpated by Landau in recent years was not seen by the author.
Frank (Cologne) read a paper on

**Total Extermination of the Uterus in Non-Cancerous Cases.**

accompanied with the presentation of cases.

In choosing "total extirpation of the uterus" as the subject of my paper and presenting patients who have undergone the operation, I do so for the following reasons:

1. I hoped to combat some erroneous representations made in a certain quarter about my operative procedure, by starting a discussion among a number of specialists.

2. I intended, despite all the hostilities, once more to enter the lists in favor of total extirpation of the uterus as one of the most beneficent operations in gynecology if employed in appropriate cases, even in non-cancerous affections of the uterus.

But since non-cancerous cases do not generally directly endanger life, the method must—

a. Be devoid of danger, and b. it can come under consideration only when for years all measures at our command have been tried in vain, when the patient's life has become unbearable and the uterus has ceased to be of value to the woman as an organ of fructification. Hence the woman must be of advanced age or have failed to find relief from the performance of castration, and the remaining uterus must have been demonstrated to be the cause of great hardship. If you, gentlemen, will bear in mind these preliminaries which I have always emphasized, you will also be aware of what must be thought of the statement made, that with us it is enough to make the diagnosis of ulcer of the cervix, endometritis, etc., and that that suffices for removing the uterus. We have never uttered such nonsense nor are we capable of such action. The operation is free from danger if the uterus is enucleated out of the peritoneum. Of the twenty-five cases on which I have operated not one has died.

With a certain secret satisfaction I can now look back on the final result. Only good has resulted to the patients from the operation. Old inflammatory processes about the ovaries and neuralgias have completely disappeared. In two cases whom I shall presently introduce to you, the hysterical troubles had not ceased, and in one case the hystero-epileptic attacks had become more violent than before. Not until after extirpation of the uterus were they completely cured.

It was precisely these two cases who had been previously castrated that quickened in me the conviction that, if castration is to be performed, we would do well to remove the uterus at the same time; for it is of no value without the ovaries and in most cases the cause of much trouble, whether it be allowed to sink back or be put into the normal position by fixation of the ligaments in front. I have, owing to the unfavorable final results of recorded cases, never done castration in the ordinary sense, but in cases where others had decided on castration I have, by the non-dangerous ex-
Reviews. 211

tirpation of the diseased uterus, been able to observe the happiest reaction on the ovaries and adnexa.

The women are at present in perfect health, while before operation they were utterly miserable.

In conclusion Dr. Frank demonstrated the method of operation, especially the treatment of the peritoneal covering, which is inverted after the extirpation.

ABEL, having witnessed the operation with hemostatic forceps twenty-one times by Landau, spoke in favor of it and said it was to be recommended, especially where the parametria were either involved or suspected, because the forceps induced necrosis in tissue situated some distance laterally from the incision. On the strength of further investigations, he still held to the sarcomatous nature of the alterations in the mucosa of the body in cancer of the cervix, and cited Waldeyer in support of his view.

(To be concluded.)

REVIEWS.

TREATISE ON THE DISEASES OF WOMEN, FOR THE USE OF STUDENTS AND PRACTITIONERS. By ALEXANDER J. C. SKENE, M.D., Professor of Gynecology in the Long Island College Hospital, formerly Professor of Gynecology in the New York Post-Graduate School, Gynecologist to Long Island College Hospital, etc., etc. With 251 Engravings and 9 Chromo-Lithographs. New York: D. Appleton & Co., 1888. pp. xxiv., 966.

In the preface to this valuable work—a preface, by the way, which commends itself as a model of brevity and modesty—we find this sentence, which is the key-note to the whole: "The author has ventured to give his own views and methods pertaining to practical matters, believing that while they may differ to some extent from the general literature of the day, they will be found reliable in practice and may be of interest to the specialist."

The book is certainly a practical one, and as such it possesses decided advantages over most of our American treatises on gynecology, the majority of which contain a considerable amount of matter which is interesting only to the specialist. The central idea that it is the reflection of the author's own practice, as developed in the "illustrative cases" appended to each chapter, may appear to some readers to savor too much of egotism, but in our opinion it is a good one. One feels that he is profiting by the matured experience of a living teacher and has not to do with the revampmed theories that have already served two or three generations of writers. In short, Dr. Skene presents to us what he himself has seen and done, and not what he has compiled from others. If we find some subjects dismissed too briefly, according to our notion, while others are treated with a greater minuteness than their relative importance seems to justify, we shall find on careful scrutiny that the author never assumes a knowledge which he
does not possess. If his experience in a certain direction has been limited, he frankly admits it, and does not substitute the theories or the opinions of others for the facts which he has not himself observed. The criticism has been made that the promise, to give credit "as far as possible to those who have made original discoveries" is not always fulfilled. We can assure the reader that he will find this in the main an honest, conservative book. Can we ask for more in this age of ultra-enthusiasm for everything that is novel? But while a critic may heartily approve of a work as a whole, he ought not to be blind to its interior, though minor defects, the sharp angles which mar its perfect symmetry.

The general plan of the work, to refer again to the preface, provides for three grand divisions, viz.: "The first class comprises those (diseases) which occur between birth and puberty; the second, those between puberty and the menopause; and the third, those which come after the menopause." It must be confessed that this division, useful as it seems to be theoretically, is rather difficult to adhere to practically, as appears from the subsequent chapters.

We find no serious fault with the introductory chapter, entitled "Methods of Observation," except that it is somewhat too condensed to meet the requirements of the beginner. Most careful directions are given regarding the manner of introducing Sims's speculum, but the use of the other diagnostic instruments is touched upon very lightly. The depressor is by no means insignificant. The caution regarding the introduction of the sound is timely. Without seeking to be hypercritical, we question if Fig. 5 is an ideal representation of "Sims's position."

Chapters II. to IV, inclusive treat of abnormalities in development, among which is included anteflexion. The author inclines to the theory of obstructive dysmenorrhea, but assumes a somewhat pessimistic attitude with regard to the value of dilatation. While we agree with him in believing that, unless sterility is overcome, the treatment of anteflexion is usually followed by only temporary benefit, we wish that he had not given his sanction to the use of the Thomas and Graily Hewitt pessaries. "to keep the uterus straight in anteflexion of the body." A comparison of this chapter with the corresponding one in Hart and Barbour's manual will convince the thoughtful reader that the latter is based upon more scientific principles.

Under diseases of the external genitals no reference is made to neoplasms. The expression "hematocele," as applied to pudendal hematoma, is an unfortunate one; it should be limited to peritoneal effusions. Vaginal enterocele is out of place in this chapter. The chapter on diseases of the vagina (VI.) is incomplete, neoplasms being dismissed in a few lines. Primary carcinoma is a well-recognized condition, as shown by Kiistner and more recent writers. We see no reason why the various hernial protrusions of the vagina, cystocele, rectocele, and enterocele, should not be included under this chapter, as in Breisky's monograph, even if their treatment is reserved for a subsequent one.

Chapter VII., on injuries of the pelvic floor, is in many respects one of the best in the book, embodying as it does the more modern ideas on this subject. The illustrations, notably the chromo-lithographs, unlike the weird geometrical figures in some foreign works, actually aid in the interpretation of the text. Some of the
ideas advanced with regard to the causation and the primary
treatment of these lesions are novel and suggestive. The author’s
method of performing perineorrhaphy will be found to differ in
some respects from that usually described in American text-
books, but it commends itself as simple and practical. He holds,
and does not hesitate to express, original ideas regarding several
minor details.

Chapters IX. to XXIII. deal with affections of the uterus. The author
believes in the utility of intra-uterine medication in endo-
metritis, but under proper precautions. He occupies a position
midway between gynecologists who entirely reject such applica-
tions and those who employ actual escharotics. We commend
his teaching as in every way suited to a modern treatise. He ap-
plies medicaments by means of an instillation tube instead of an
applicator. Subinvolution is considered as a result or complica-
tion of other pathological conditions, rather than as an affection
per se. “I have never,” he adds, “observed any symptoms which
were specially characteristic of imperfect involution.” “The man-
agement of subinvolution,” he aptly remarks, “usually falls to
the obstetrician, in case he is on the watch for it.” We believe
that not this condition alone, but others of a more serious char-
acter, would become far less frequent if the accoucheur felt that
his responsibility was not at an end until the termination of the
puerperal month. We cannot accept the writer’s pathology in toto.
Why he thinks it necessary to introduce a separate chapter on
“sclerosis” of the uterus is not clear, since he admits that “this
affection (?) of the uterus is a change of structure produced by a
pre-existing inflammation or derangement of nutrition, and may
be more properly considered as the product of morbid action, rather
than active disease.” Without entering into a discussion of the
much-vexed subject of “areolar hyperplasia,” it is sufficient to
call attention to the fact that sclerosis is only one end-result of the
process, and can hardly be regarded as identical with the process
itself, just as cirrhosis of the ovary is only one of several conse-
quences of chronic ovarian disease. Dr. Skene aims to clear up
some of the confusion which surrounds this branch of uterine
pathology by assigning subinvolution and sclerosis to separate
chapters.

Chapter XIV., on lacerations of the cervix, contains much that
will be new to the reader who is only familiar with Dr. Emmet’s
description of the operation which bears his name. On the whole,
the subject hardly receives the attention which its importance
demands in an American treatise on gynecology. Dr. Skene
describes the operation for the repair of laceration of the cervix
as he performs it, without giving any hint to the inexperienced
that there may be other methods equally good. While the hawk-
bill scissors may be useful in certain cases, especially in the hands
of their inventor, we cannot conceive of their universal applica-
tion by the general practitioner, who ought to be taught, above all,
to work with the fewest and simplest instruments possible. A
pair of ordinary, sharp-pointed scissors, curved on their flat sur-
face, is sufficient for all the minor gynecological operations,
especially for the one under consideration. There is no necessity
for the saving of time which is said to be secured by the special
instrument. The kind of suture employed is, of course, purely a
matter of choice; it seems, however, as if silver-wire were better
adapted to the purpose of the ordinary operator, especially in
cases in which it has been necessary to excise a large portion of the cervix and it is important to introduce the stitches quite deeply. The author's views regarding the treatment of patients after this operation are somewhat at variance with the conservative attitude which he usually assumes. Whatever "can be done with impunity" by an experienced gynecologist, we are convinced that there is no such thing as being too cautious in the care of these cases. Certainly a teacher of gynecology ought not to refer with too much complacency to a successful operation for repair of the lacerated cervix performed in his office, the patient being "sent home in the street-cars." Women do sometimes die after minor operations, even under the most favorable conditions.

The chapters (XVII. and XVIII.) on displacements (or "dislocations," as they are here termed) of the uterus contain much that is interesting and instructive. We commend especially the section on the adaptation of pessaries, which is fitly supplemented by a separate chapter on the abuse of these instruments. More should have been said about the non-operative treatment of retroflexion with fixation—a condition which it is really more important for the general practitioner to treat intelligently than almost any other in the whole range of gynecology. Hysterorrhaphy deserves some recognition in a recent work; when properly applied, it ranks little below Alexander's operation, since it has unquestionably been more widely tested than the procedure recommended by Polk, the description of which is quoted at length.

Chapter XXI., on fibroma of the uterus, is excellent, comparing favorably with the corresponding one in other works. Dr. Charles Jewett has added a clear and practical section on electrolysis. The important subject of malignant disease of the uterus is most valuable from a clinical point of view. The pathology must be rather confusing to the student from the attempt to draw a sharp distinction between the different forms of cancer of the cervix. It seems hardly necessary to insist upon making a differential diagnosis between the scirrhouis and medullary varieties of carcinoma and epithelioma. The pages on Freund's and Schroeder's methods of extirpation of the uterus appear to have been written some time ago; considerable additions might be made to the description and statistics of the latter, in the light of recent progress. We would omit all reference to Freund's heroic procedure, and also the following sentence, which is hardly justified by the facts: "It would seem that vaginal hysterectomy, according to Schroeder's own statements, is destined to become a rare operation."

We are glad to see that the menopause is considered of sufficient importance to warrant a separate chapter on its derangements.

Chapters XXIV. to XXX., including a little over a hundred pages, are devoted to diseases of the ovaries. The first of these treats of the anatomy and physiology of the glands; the second, of oophoritis, and the remaining four, of ovarian tumors and ovariotomy. No mention is made of malignant neoplasms, which are by no means unimportant, clinically as well as pathologically. Chapter XXVI. contains a comprehensive account of the symptomatology and physical signs presented by ovarian cysts. The description of ovariotomy is lucid, and cannot fail to be of great assistance to the beginner. Some of the details will strike laparatomists as being old-fashioned. Dr. Skene's method certainly does not favor rapidity of execution. He naturally follows Keith,
a worthy master. The plan of after-treatment recommended is hardly that adopted by the most advanced operators. There can be little doubt regarding the advantage of moving the bowels early (on the second or third day), especially when peritonitis threatens, and of giving little, if any, opium. Definite directions concerning the management of complications after the operation would make this chapter more complete. A separate description of laparotomy for the removal of diseased tubes and ovaries deserves a place in every modern text-book, and we are surprised at its omission from the present volume. This operation is so essentially different from ovariotomy that one description does not suffice for both. Some concession should be made to the fashions of the day, even if the author is not an enthusiast regarding the operation, as appears from the scanty space which he allows to diseases of the tubes (Chapter XXX.).

Companion chapters on pelvic cellulitis and peritonitis appear in the old familiar dress. The author is strictly orthodox in his views on these much-discussed subjects. He evidently does not propose to be "carried about with every wind of doctrine," since he shows no evidence of having been influenced by recent articles and discussions regarding the entity and relative frequency of these forms of pelvic inflammation. "Chronic cellulitis," he believes, "is nothing more than the products of the inflammation (of the cellular tissue?) which remain after the inflammation itself has subsided." There seems no good reason why no reference should be made to hot vaginal injections in the treatment of cellulitis.

The chapter on pelvic hematocoele is conservative in its tendency, the writer believing in expectant treatment. He does not draw a sufficiently sharp distinction between sub- and intra-peritoneal effusions, upon which Tait lays so much stress. Some of the illustrative cases described would doubtless have been more promptly relieved by laparotomy. We regret that the important subject of extra-uterine pregnancy has not been discussed in this connection. It belongs more properly to gynecology than to obstetrics, and should find a place in every modern treatise on diseases of women. The general profession cannot be too thoroughly instructed regarding the symptomatology and diagnosis of this serious and not infrequent condition. Americans have contributed so much to the knowledge of it that it should not be omitted from a representative American work.

With Chapter XXXIV. begins what is in effect a separate monograph on diseases of the urinary organs, comprising three hundred and twenty pages. Those who are familiar with Dr. Skene's former work on this subject will naturally infer that this portion of the book possesses peculiar merits. It is by no means a simple reproduction of the author's original lectures on "Diseases of the Bladder and Urethra in Women," although it is based on them. Dr. Skene has made a decided advance in his studies of these affections, as is evident even on a cursory inspection of the chapters before us. We have no hesitation in pronouncing this the most complete "treatise" (as he rightly terms it) on this subject in the language, the chapters in Dr. Emmet's work not excepted.

Chapters XXXIV. and XXXV. deal respectively with the anatomy and malformations of the urinary tract, and are quite exhaustive. Chapter XXXVI., on the function of the bladder is
entirely physiological, and might have been included under chapter XXXIV. Forty pages are devoted to functional diseases of the bladder, an obscure subject of which Dr. Skene has made a more careful study than any other American writer, with the result of shedding much new light upon it. The illustrative cases bear witness to his careful mode of investigating these affections, which seldom receive proper attention, even at the hands of specialists. In describing the methods of exploring the bladder and urethra, due value is assigned to cystoscopy. The chapter on the treatment of organic diseases of the bladder is especially instructive. While it does not belong to a critic to engage in a personal controversy, we cannot resist the temptation to enter a protest against certain statements made on page 745 regarding the results of cystotomy as performed by Dr. Emmet. We note the following remarkable sentence: "In his (Dr. Emmet's) book on gynecology, in speaking of cystitis in women, he says that our management of this affection is limited to one procedure, and that is vaginal cystotomy." We leave it to the candid reader to decide if any such inference can be drawn from Dr. Emmet's published writings. He distinctly says on page 773 of the last edition of his "Principles and Practice of Gynecology": "When the injection of water cannot be borne without increasing the irritation of the bladder, or where there has been no marked improvement in the case after a reasonable time, a surgical operation must be resorted to." Dr. Skene, in quoting the published statistics of the Woman's Hospital, has neglected to state that Dr. Emmet's own statistics (which also appear on page 788 of his book) show sixty-two and a half per cent of recoveries, as contrasted with twenty per cent in the general table. Fiat justitia!

One cannot but feel that the brief sentence on page 860 does not do justice to the work of an acknowledged master in urethral surgery. "Dr. T. A. Emmet has extended the usefulness of this operation" (button-holing the urethra). Disputes over priority are the opprobrium of our profession; but there is little doubt that he who develops, perfects, and popularizes an operation has claims to the consideration of the world which cannot be passed over lightly.

Chapter XLIX., on diseases of Skene's glands, may strike the reader as being somewhat longer than the importance of the subject warrants. The chapter on vesical and urethral fistule is clear and satisfactory; only one of the eleven illustrative cases occurred in the author's practice, but the acknowledgment of his indebtedness to a distinguished confrère at the conclusion of the chapter atones for the omissions to which we have called attention.

The final chapter, entitled "Gynecology as related to Insanity in Women" is a new departure, and will be read with interest and profit. It is original and scholarly, and is a true reflection of the clear head and kindly heart of the author.

Every critique of such an important work as the one which we have so briefly reviewed is necessarily imperfect. It can give the future reader of the book only a superficial idea of its inherent excellencies. It is the fate of a reviewer to be accused of blaming where he should have praised. After all, his opinion, honest as it may be, is worth no more than that of any other man. Dr. Skene's book is "eminently viable," and will win for itself a place in the already voluminous literature of gynecology. The fact that it represents the matured experience of a successful teacher is
Reviews. 217

enough to commend it to the profession. The "illustrative cases" alone form an original and valuable feature, which will be thoroughly appreciated by the student and general practitioner, to whom clinical instruction is of paramount importance. The style is condensed, but clear and forcible. The illustrations are new and often beautiful. Errors in proof-reading are conspicuous by their absence. The tout ensemble of the book reflects credit upon the well known publishing-house from which it originated.

H. C. C.

Electricity as a Therapeutical Agent in Gynecology. By Paul F. Mundé, American Journal of Obstetrics, etc., Dec., 1885. Translated into French by P. Ménière, Paris, 1887; and into Russian, by M. Popialkowsky, Moscow, 1889.

This paper has been vigorously criticised by certain authors for asserting that electricity can be safely and beneficially employed in gynecology without a previous thorough knowledge of electrical science.

By this statement, the author simply meant that any intelligent practitioner who was able to make a correct diagnosis of the conditions for the use of the electrical current was also able to employ it successfully, provided only that he knew the difference between the two forms of current, the action of the two poles, and the proper cases in which to employ the one or the other. The detail of electrical technique, such as the measurement by ohms, volts, or ampères, is by no means indispensable to a useful employment of electricity as a therapeutic agent. It is true that, at the time the above monograph was written, the galvanometer had not become so generally employed as at present, hence but brief mention was made of measurement by milliampères. At present the author employs the galvanometer whenever he uses the galvanic current. Ordinarily, however, it is not the number of milliampères which determines the strength of the current to be used at a given sitting, but the sensation and endurance of the patient on each occasion. Of course, when powerful galvanic currents are used during anesthesia, as in the Apostoli treatment of fibroids, the galvanometer, as a means of determining the current strength, is an indispensable adjunct.

That the practical nature of the monograph is widely appreciated, in spite of the above criticism, is amply shown by the fact that both French and Russian specialists have thought it worthy of translation into the languages of their countries.


An abstract of these transactions having appeared in the September and October numbers of this Journal for 1888, the reader is referred to them for further information.
ABSTRACTS.

1. Hardon: Chronic Pelvic Cellulitis, and the Conditions which Simulate it (Trans. South. Surg. and Gyn. Assoc., 1888).—II. holds that chronic pelvic cellulitis never occurs except as a sequel of acute pelvic cellulitis. The clinical history of acute pelvic cellulitis presents three stages: a stage of effusion, characterized by the effusion of serum into the cellular tissue; a stage of solidification, characterized by the solidification of the effused serum; and a stage of absorption or of suppuration. It is impossible for effusion of plastic material to take place as a consequence of chronic inflammation, that pathological process being characterized by cell proliferation and hypertrophy of normal structures—conditions which have never been found to exist in the pelvic cellular tissue. The researches of Coe show that when so-called pelvic cellulitis has existed during life, no appearances corresponding to this condition have been found after death. Clinical evidence points in the same direction. In acute pelvic cellulitis the womb is immovably fixed by a deposit of plastic lymph, while in so-called chronic cellulitis the womb is movable, and if the organ be lifted to its normal position, the hard masses in the broad ligaments disappear with a rapidity which is inconsistent with the theory of a chronic inflammatory process. What, then, is the significance of such masses? Dr. Hardon believed them to be due to accumulation of blood in the pelvic veins—a view which is corroborated by a study of the anatomy of those veins. The beneficial effect of the vaginal douche in such cases is due to the fact that it lessens the amount of blood in the pelvic blood-vessels, and hastens involution by diminishing edemic congestion, thereby lessening the weight of the organ, and allowing it to resume its normal position in the pelvis. Another condition often regarded as chronic pelvic cellulitis is found in salpingitis, with distention of the tube. The diagnosis in uncomplicated cases is not difficult, provided attention be directed to the distinctive features of the conditions just referred to, with which it is liable to be confounded. When pelvic cellulitis occurs by extension of inflammation from the tube, and one attack follows another, the condition is not one of chronic pelvic cellulitis, but of renewed attacks of acute pelvic cellulitis. In such cases any given attack may be aborted by aspirating the cellular tissue in the stage of effusion. The "ponction capillaire aspiratrice" of Hervot is probably based upon the same principle. Acute pelvic cellulitis is often secondary to disease of other pelvic organs, but not necessarily so, since aspiration in the stage of effusion will abort an attack, and sometimes the pelvic organs are then found to be free from disease. Another condition sometimes mistaken for chronic pelvic cellulitis is contraction of the utero-sacral ligaments. The fact that in many cases such contraction disappears after the patient is etherized, and is not found after death, as shown by Coe, proves that it is not due to organic changes in the tissues. Hardness in the roof of the pelvis may be disregarded as an obstacle to operations about the cervix, except when it is accompanied by other symptoms denoting the existence of acute inflammation.

2. W. D. Bizzell: Certain Forms of Menorrhagia and Treatment of the same (Trans. South. Surg. and Gyn. Assoc., 1888).—B. first briefly reviewed the subject of normal menstruation, accepting in most particulars the doctrine of Dr. Mary Putnam Jacobi;1 that there is, first, a gradual

1 American Journal of Obstetrics, 1885.
Abstracts.

premenstrual development, by growth and enlargement of the uterine and ovarian sinuses, that this growth or development will not take place unless there be imparted through the nervous system a trophic impulse. This trophic impulse we call the menstrual molimen, which is in turn dependent on development of mature ovacles in the ovarian stroma, without which there is no evolution or development of the uterine and ovarian sinuses, and consequently no visible menstrual flow. This cyclic, trophic impulse, once imparted to the uterus and appendages, continues to dominate them, even after the ovaries have ceased to perform their proper functions from disease, or have been removed by the surgeon. Even the removal of the ovaries and tubes will not, in all cases, arrest the periodical flow.

If it be true that this enlargement of the uterine and ovarian sinuses is trophic, and their filling with blood a physiological hyperemia, the visible flow or pregnancy being the climax, to be followed by a period of retrogression, till the normal quiescence of the mid-menstrual period is reached, we can readily see that many unfavorable causes may arise by which the normal retrogression is prevented, and the physiological hyperemia becomes a passive congestion, and the sinuses of womb and appendages remain enlarged and engorged with blood, throughout the mid-menstrual period. Excessive muscular exercise, as dancing, long walks, horseback riding, etc., during a period, may produce this condition in young women otherwise healthy. The next menstrual period is profuse, and unless the patient is careful, the condition of menorrhagia becomes fixed. Overworked shop-women, standing constantly on the feet, regardless of their sick times, are very prone to the development of this passive congestion and menorrhagia. But subinvolution following abortion, miscarriage, or labor at term is one of the most fertile causes of this type of menorrhagia.

When we consider the many causes producing conditions of engorgement, congestion, and hypertrophy in the womb and appendages, and superadd to this the periodical trophic growth and hyperemia of menstruation, the only wonder is that cases of menorrhagia are not more frequent.

The doctor then briefly discussed the treatment appropriate to these several forms of menorrhagia. In the first class mentioned, that of plethoric young women, who suffer after exposure to cold, or excessive muscular exercise, as long walks, dancing, etc., during the menstrual period, hygienic treatment, absence of excitement or fatigue, simple habits, plain food, regular bowels, occasional salines, rest in the recumbent position during the entire menstrual period, rapidly restore the function to its normal proportions.

In the overworked shop-woman, the application once a week to the endometrium of Battey's solution of carbolie acid and iodine, together with a moderate tampon of glycerin and boro-glyceride renewed daily, by which the womb is slightly elevated and supported, with at least partial rest during the menstrual period, will speedily effect a cure, unless the trouble is of long standing, and the patient in consequence is suffering from mal-nutrition, hysteria, and general nervous prostration; if so, a season of complete rest will be required in addition to the local treatment to effect a cure. The most frequent cause of menorrhagia, as is well known, is that due to subinvolution. Womb large and heavy, muscles gorged with fat, sinuses engorged, endometrium a mass of passively congested, thin-walled capillaries which tend to bleed on the slightest provocation, and with the advent of menstruation the loss of blood
is very great. The philosophy underlying all plans of treatment for this is to give tone to the uterine muscles, quicken the circulation in the deeper structure of the womb, and to destroy, or by embolus plug, or pressure contract, the blood-vessels of the endometrium. To accomplish these results, Lombe Athill was accustomed to apply to the endometrium fuming nitric acid, at the same time administering ergot, mix vomica, and arsenic, per os.

The curette, first given to the profession by Recamier and commended by Sims, after a season of comparative neglect, has in recent years been the chosen method. By the curette, made perfectly aseptic in hands not afraid to use it with sufficient thoroughness, the best results may be obtained by its local action, not only remnants of placenta, etc., removed, but capillary loops cut across, become closed by thrombi and cease to bleed. The secondary effects are stimulating, the deeper circulation is quickened, absorption of fat, etc., goes rapidly forward, the womb is reduced, and involution is completed. To get these results, the operation must be thorough. A partial or imperfect use of the instrument will only make matters worse. Sometimes the secondary effect on the deeper structures does not follow, and in these cases the hemorrhages are sure to return. It was to meet the indications in such cases as these that B. began using the intra-uterine tampons after the method of the late Dr. Taliaferro, of Atlanta, Ga. In using this method, the patient is placed in the knee-chest position, the perineum elevated, the anterior lip, seized by a tight spring-catch volseellum, drawn down to within two inches of the vulva, is firmly steadied in this position, with the volseellum lying along the anterior vaginal wall, by the assistant. A uterine tampon roll about the size and thickness of a lead-pencil, prepared from clean simple cotton or absorbent cotton is drawn out and rolled between the hands till it is of the proper size, a sewing-thread is tied at one end and wound lightly and spirally around the roll with just enough force to hold the tampon together and facilitate its withdrawal, and the completed tampon is then rendered aseptic by rubbing powdered iodoform into it, or, what is better, immersing in a saturated solution of iodoform and ether, and allowing the ether to evaporate. A number of these can be prepared and kept in a tin canister ready for use.

One of these rolls, seized near the distal extremity by a slender pair of dressing forceps, is carried through the os up to the fundus, the blades are then gently opened and drawn backwards for an inch or two, and again closed and carried to the fundus; successive sections are thus carried down till the entire tampon disappears within the uterine cavity. This operation is repeated until the entire cavity is tightly packed. The vagina is then lightly tamponed, the tampons next the os being saturated with glycerin and iodoform.

As Dr. Taliaferro truly said, by this method, "we have a marvellous therapeutic resource." Cases that have obstinately resisted other methods yielded promptly to this.

Oftentimes a period of from seven to ten days is sufficient to effect a cure.

The pressure acts as a bandage does on a varicose ulcer of the legs, the harmony and balance of the circulation is restored, the muscles gain tone so that, as a rule, they eventually force out the tampon by the tenth day, and the cure is complete.

The patients should be confined to bed as a matter of precaution, though this may not be necessary in all cases after the third day. If colicky pains

follow the first introduction of the tampons, a hypodermic of morphine will allay it.

If Dr. Gehrung1 will follow this method, he will not say, as he recently reported in a certain case of menorrhagia, "The uterine tampon made matters worse."

Dr. Bizzell thought this method had not been practised by the profession so extensively as its merits warrant. He is satisfied that a thorough and fair test will convince the most skeptical that it is a resource of great value and merit.

B.

3. A. Guesserow: Experience with Pyo-salpinx and its Operative Removal (Arch. f. Gyn., XXXII., 2).—The author presents a series of thirty-one laparatomies performed during the last three years, for the cure of this trouble, in ten of which he had removed both tubes; but one case died, and that of septic peritonitis. The author understood by the term pyo-salpinx a disease of the tubes in which they form a sac closed by adhesions to surrounding structures, which sac is filled with pus; clinical experience did not uphold the distinction between pyo-salpinx and salpingitis purulenta. The main thing for the patient was whether or not the diseased tube be closed and a purulent secretion have collected on its mucous membrane. The cases cited were of such a nature. In all there had been symptoms of perimetritis. For longer or shorter periods, ere pyo-salpinx had been demonstrable. It is, in fact, impossible, to determine the existence of a closed tube-sac filled with pus before adhesions have taken place at the abdominal openings of the tubes. The etiology, therefore, resolves itself in that of perimetritis. Despite the fact that gonorrheal infection plays a part, it must not be overestimated; cases of perimetritis can often be traced to abortion, labor, etc.; investigation had shown gonococci to be present in the pus from the tubes in extremely few cases; in his own cases the investigation had been followed by uniformly negative results. The occurrence of pyo-salpinx must then be regarded as the extension by continuity of a catarrh of the uterine mucous membrane—of gonorrheal or other nature—to the tubes, and then, by the entrance of the tubal contents into the abdominal cavity, inducing a localized peritonitis or perimetritis; it is probable that this is often accomplished by traumatisms; the perimetritis so produced leads to distortion and matting together of the pelvic organs, particularly of one or both tubes; the purulent secretion thus finds no outlet, and a retention-cyst forms in the tube. If the catarrh of the tubes be primary and the perimetritis with its consequences secondary, the fact is explained why both tubes are much less frequently affected simultaneously (in thirty-one cases nine times). Closure by perimetritis must always occur before the purulent secretion can collect in a tube; closure of both tubes is not essential, and no predilection as regards situation is noticeable with unilateral pyo-salpinx. A coincidence of great importance was the almost invariable participation of the ovaries in this disease, microscopically and macroscopically the stroma of the organ showed the extension of the inflammatory process. In some cases the ovaries and tubes formed one abscess-cavity, scarcely capable of anatomical distinction. The symptoms of the patients are all those of chronic perimetritis; the more recent and extensive the inflammation of the pelvic peritoneum, the less likely is a considerable collection of pus in one or both tubes to exist, or the less likely is it of discovery; the more the acute inflammatory condition and the free exudation masses in the small pelvis have-

1 Amer. Journal Obstetrics, Nov., 1888.
Abstracts.

disappeared, the more distinct does the swelling of the tubes become, not only for the investigation, but in the symptoms which it produces. The patients now suffer constantly from abnormal sensations in the small pelvis, and symptoms of varying pain and oppression, intensified by any unusual or prolonged bodily exertion. This disease has a peculiar importance for women of the lower classes, as it incapacitates them from work, even that of their household, and the malady is more frequent among them, as a natural consequence; the accidents, too, that may produce it are much more likely to occur with them than with women of the more favored class, i.e., gonorrheal infection, improper care after abortion and labor, traumatisms, etc. Such patients do not obtain the proper care when they contract perimetritis; treatment is often very poor, or altogether lacking; or if it is applied, is not done so for long enough periods. All these things combine to make perimetritis, with its attendants, rare among the women of the better classes of society. The disease, when left alone, is almost always accompanied by exacerbations of pain during the catamenia, often with symptoms of peritonitis. G. could not fix upon any symptoms as pathognomonic of pyo-salpinx; in his experience many of the symptoms regarded by others as peculiar to the trouble had been wanting, such as profuse menstruation, which is often dependent upon other distinct causes, which are simply coincident. Chronic perimetritis will persist and probably increase in intensity as long as the pyo-salpinx remains; even when the tubal swelling is apparently shrinking, it remains a centre from which new perimetritic processes spring or existing ones become prolonged. The bursting of a pyo-salpinx may occur at any moment, and prove quickly fatal. Whether in such cases the adhesions at the mouths of the tubes give way spontaneously, or ulcerative processes in the mucous membrane lead to rupture, it is impossible to say. G. lays the greatest stress as a factor in this upon the development of new processes in the pyo-salpinx, as either renewed inflammation and pus formation, or ulceration in the tube-wall, with the discharge of fresh irritants into the abdominal cavity. The danger from the entrance of pus into the abdominal cavity is much overdrawn; he had been unable to prevent this accident while operating, in eighteen out of the thirty-one cases, and in only one case did peritonitis follow, proving fatal; the latter may have resulted from septic infection, or from the retention of a small portion of diseased tube, as none of the other seventeen cases showed septic symptoms. Small quantities of even infected pus could enter the abdomen and do no harm if promptly removed by sublimated sponges. Like other observers, he had been unable to discover gonococci in the pus obtained from pyo-salpinx; he had, in addition, immediately after the operation, injected pus into the abdomen of rabbits, with no results. A ruptured pyosalpinx is often found in those cases of chronic perimetritis that perish suddenly of septic peritonitis. This accident was formerly of frequent occurrence after trivial operations on the internal genitalia, and is more rare now because of greater sagacity in diagnosis and manipulation, and also because of careful antisepsis. It is important to differentiate pyo-salpinx from small subserous tumors of the uterus. The fact that tubal swellings always lie in the broad ligaments may protect against error. There is but one remedy for pyo-salpinx, and that is operative removal. Tentative treatment avails nothing in genuine cases. The operation is very difficult, because of the small size of the tumors and their deep situation in the broad ligament, and because of the extensive perimetritic adhesions. G. has of late
practised making the abdominal incision smaller and smaller; he had never found it necessary to remove the intestines from the abdomen; this is as dangerous as it is useless. All the difficulties may be overcome by an assistant inserting a finger in the vagina and lifting the uterus with the tumors up into the abdominal opening. The colpeuryncter may serve as a substitute for the assistants' finger in emergencies. He always removed the ovary belonging to the diseased tube, or both ovaries when both tubes were affected. The removal of both ovaries possessed the advantage of bringing on the menopause and obviating the evils of catamenial congestion. He could not bring himself to castrate in all cases, whether unilateral or bilateral, as one of his cases had become pregnant after the removal of a diseased tube and ovary of one side. The danger of the operation is slight. In one case the abdominal wall gave way and the intestines were prolapsed, with ultimate recovery, and it was for this reason that he made a small opening. Hernia is one complication likely to follow the operation; the other, and one more difficult to prevent, is the development of perimetritis, or increase in the perimetritic process after the operation. In most of his cases, G. had noted a gradual diminution, and occasionally total disappearance of the exudation.

L. Rosenberg.

4. S. Gottschalk: A Case of Cavernous Metamorphosis of the Ovaries (Arch. f. Gyn., XXXI., 2).—The patient was 28 years old, married to a healthy man: had always been perfectly healthy herself, and family history was good. Her marriage had proven fruitless. One year after marriage, the menstrual flow became more copious, but not abnormally so, until 1883, when it became very profuse and irregular. The uterus had been curetted at that time, but without benefit to the metrorrhagia; the hemorrhages continued and increased in severity. Curetting was resorted to in all seventeen times in three years without any result. In February, 1886, Landau, in view of the dangerous condition of the patient, determined upon total extirpation of the bleeding organ. The operation was done in the usual way, both ovaries being removed. An uninterrupted convalescence followed, and success was secured. The patient at the present time enjoys better health than ever. The extirpated uterus was of normal size, slightly thickened in its muscular structure; its mucous membrane was apparently healthy. The ovaries were of a deep blue-red color superficially, and were distinctly enlarged, the right one about twice the normal size, the left one still larger. Upon opening the organs, darkly-colored blood was expelled from numerous small cavities of varying size and irregular borders. These cavities were at first supposed to be partly enlarged follicles filled with blood—a view justified by the great damming back of blood in the spermatie vessels by the numerous ligations necessitated by the operation. Upon microscopical examination, however, it was clear that these cavities were not follicular, but that cavernous metamorphosis had taken place in the organ, leading to an unusually large collection of blood. From this source the uterus was constantly supplied with a pathologically increased amount of blood, which not only produced an intense hyperemia of the uterine mucous membrane, but which necessarily had to find an outlet externally. Examined from the periphery, normal follicles were found in the stroma of the organ, not, however, in such quantities as are present in the ovaries of a fruitful female. The albuginea was only slightly thickened; it covered a layer of ovarian structure extremely rich in
capillaries. A high-grade hyperemia existed here. Beneath the hyperemic zone the transition into cavernous metamorphosis became apparent. Numerous capillaries presented irregularly-limited areas of dilatation. Under high power, endothelial desquamation could be seen. The tissues were infiltrated with emigrated round cells. Towards the centre, the vascular dilatations were more numerous and of greater size; the connection of the cavities with the parent vessels was very indistinct, owing partly to the new-formation of vessels which connected a number of capillaries with a cavity. The tissue, properly the seat of the cavernous change, was analogous to the corpora spongiosa of the penis. The vessels were closely packed together at the expense of the connective tissue, giving the section a sieve-like appearance. The smaller of these cavities were still engorged with blood. This account of the development of the cavernous metamorphosis supports Kindlisch's views on this subject. The only way in which the ovaries could be relieved of a portion of their large accumulation of blood was by dilatation of the anastomotic branches between the spermatic and uterine arteries. Notwithstanding, no hypertrophy of the uterus existed, only a slight thickening of its muscular substance, nor was there hyperplasia of its mucous membrane. It is probable that the blood made its escape from the uterus too rapidly to effect any nutritive changes in that organ. Sections through the mucous membrane showed no change, only an intense hyperemia, more intense than is observed in inflammatory conditions. G. did not think that the removal of the uterus was indicated in the malady under consideration; the removal of the ovaries sufficed, provided the operator could convince himself beforehand of the nature of the trouble. Theoretically and conservatively, ligation of the anastomoses between the spermatic and uterine arteries, which could be accomplished through the vagina, would be sure to lead to success; the duration of the latter, however, would depend upon the collateral circulation which would ensue. He did not know of any method by which cavernous metamorphosis of the ovaries could be demonstrated outside the body, but he regarded an unusually high-grade hyperemia without structural change as very suggestive. Chronic oophoritis, with enlargement, likewise produces uterine hemorrhages, but the pains in the left side which always accompany this condition are absent in cavernous metamorphosis; neither are the hemorrhages in the former so profuse, and are more likely to yield to appropriate treatment.

L. R.

ITEM.

At a meeting of the Southern Surgical and Gynecological Association at Birmingham, Ala., in December, Dr. Hunter McGuire, of Richmond, Va., was elected president, and Drs. W. O. Roberts, of Louisville, Ky., and Bedford Brown, of Alexandria, Va., vice-presidents. Drs. W. T. Briggs, of Nashville, Tenn., and V. O. Hardon, of Atlanta, Ga., were appointed to the Judicial Council. The next meeting will be held at Nashville, Tenn.
In looking over the field of obstetrical literature, I was impressed with the brief articles, especially in the text-books, on Hernia of the Pregnant Uterus or Hysterocele Gravidarum. Hence I have thought it would be of interest to this Society to collect the cases on this subject, and to collate the various opinions of obstetrical writers.

I do not lay any claim to originality of ideas herein expressed, as the labor and time expended in looking for the small number of isolated cases have so taxed the powers of research that theorizing was almost impossible.

Definition.—By hernia of the uterus one understands a change in the position of the womb by which it lies in a hernial sac formed by the peritoneum. The uterus can partially or entirely escape through a natural or artificial opening in the fibrous parts of the surrounding walls. Such cases are of the greatest rarity. It may occur during the pregnant or unimpregnated condition of the organ.

1 Read before the Washington Obstetrical and Gynecological Society, November 2d, 1888.
Scanzoni says the uterus has been seen protruding through an eversion of the anterior abdominal walls, such as is often met with after frequent pregnancies or the cicatrix of a successful Cesarean section.

Cazeaux: Most cases of hernia of the womb may be referred to what have been described under the name of anterior obliquities of this organ. These are true evolutions; and it is exceedingly rare for the uterus, by escaping through one of the natural openings of the abdomen, such as the inguinal or the crural rings, to constitute a hernia, properly so-called.

Ashwell: The most uncommon malady is, ordinarily, denominated hysterocele, and, as a displacement, may occur during the pregnant or unimpregnated condition of the organ.

Courty: It is not uncommon to see the uterus, when distended by pregnancy, protrude between the recti muscles (separated by several preceding pregnancies), and hang down like a wallet even as low as the thighs when the excessively distended linea alba is incapable of supporting it; it is rare, however, to see this organ undergo the displacement for which the name of hernia is reserved. A certain number of authentic facts, however, prove that the uterus may be dragged to a certain distance from its normal position, and, with other abdominal viscera, become surrounded by a hernial sac, in which it may become enveloped, contain the product of conception, and reach the natural term of gestation.

Hodge: Labor is said to have been complicated with hernia of the uteri; that is, the uterus has, from some unusual combination of causes, been protruded through openings through the walls of the abdomen after conception has taken place. Hernia should not be confounded with "eventration;" that is, where there is a great relaxation and thinning, in whole or in part of the walls of the abdomen, so that irregular projections of the uterus and child can be felt externally.

Varieties.—Hysterocele may be found in inguinal or crural herniae, or through rupture of the abdominal muscles, as in umbilical hernia, or in a hernia of the foramen ischiadicum and of the foramen ovale.

1. Inguinal Hysterocele.—In this form the entire uterus or its fundus enters an external or internal inguinal sac. Cases of this kind, especially in the pregnant uterus are exceedingly rare. The inguinal ring must be very large, which is of rare occur-
rence in women, to admit the gravid uterus. In the case of Rektorzik, in which it was supposed that the rudimentary accessory horn of a uterus unicornis was situated in a right inguinal hernia, and being impregnated in this position, gestation was completed and a living child was delivered by hysterotomy. The woman died. That such a hernia can exist during pregnancy is, at all events, proved by the following cases: The oldest recorded case of hernia of the pregnant uterus is that of Nicolaus Pol in 1531; after Cesarean section the mother lived three days, and the child one and a half years. The second case, reported by Sennert, was subjected to Cesarean section April, 1610. The mother lived twenty-five days and the child nine years. Cases of inguinal hernia of the pregnant uterus are reported by Fisher, Pol, Ledisma, Sennert, Skrivan, Rektorzik, Scanzoni, Winckel, and Olshausen.

Case I. — On the 12th of October, 1832, Magdalene Münger, 44 years of age, living in the parish of Konirz, was taken as an urgent case to the surgical department of the hospital (Insel) at Berne, under the superintendence of Dr. Isenschmidt (professor of surgery), in whose absence at the time, the duties of the institution were conducted by the author of this paper.

Upon examining the patient, it was found that she had had seven children. Ten years previous to her marriage she had an inguinal hernia on the right side, which was neglected, she never having worn a truss. In every pregnancy the woman suffered much inconvenience from the hernial tumor, which frequently became very large.

She was now pregnant of her eighth child, and at the sixth month of her pregnancy. The hernia had been incarcerated for several days previous to coming into the hospital, but her sufferings had been subdued by cataplasms of linseed meal and cold applications, by which means the hernia was reduced. After its reduction the most severe pains came on suddenly in the whole abdominal region, in the loins and lower extremities; and, during the pains, the impregnated uterus got out of its natural position and protruded through the inguinal ring, covered by the hernial sac. The gravid uterus was easily distinguished, and of egg-like form, resting upon the thighs to the extent of eight inches downwards, and six inches in circumference. The woman, lying upon her back, was free from pain. No menstrual discharge had taken place for six months. On examination per vaginam, the os was found, as is generally the case in pregnancies of six months, only a little retracted, higher and more inclined to the right side. The functions of the bladder and rectum were natural. The abdomen was small, relaxed and wrinkled. On

Adams: Hernia of

anscultating the lower and anterior part of the tumor, regular pulsations were discoverable. From this time the patient never abandoned her bed, always maintaining her position on the back. In this position she was tranquil, and had no return of pain up to the full period of her pregnancy, although the dimensions of the uterus gradually increased to such a degree that on the 19th of January, 1833, it measured 25 inches and 2 lines in circumference, and in length 22 inches and 10 lines, the circumference at the base being considerably smaller. On the above-mentioned day, at six o'clock in the evening, the woman felt herself unwell; she had pains in her loins and abdomen, and contractions in the uterus; the orifice of the uterus became dilated, and, between six and seven o'clock the waters escaped per vaginam, upon which pains increased prodigiously. In consultation, Dr. Leuch decided upon performing Cesarean section, which was done about nine o'clock the same evening, in the presence of Professors Isenschmidt, Hermann, Emmert, the medical men Nichans and Fischer, and some students. The operator found a living, healthy, well-formed child, with its head at the fundus of the uterus, and with its feet towards the hernial ring, which he successfully removed. The woman died on the early morning of the 21st.

Sectio Cadaveris.—Circumference of tumor, taken horizontally, 17 inches; longitudinally, 21 inches 9 lines; base, 18 inches 8 lines. Blood in the abdominal cavity from the wound in the uterus. Ligature to hernial sac in place. The inguinal ring admitted the open hand. The hernial sac was above and to the right, and the uterus below and to the left part of the ring. The incision in the uterus was found to the right and in front. The colon was found detached, but lying in the hernial sac, and measured twelve inches in its outer circle. A small fold of this intestine was found adhering to the inguinal sac posteriorly. The pelvis was large and well formed. The infant lived.

Case II.¹—One Ramus, aged 24 years, and having borne six children, had a right inguinal enteroccele, which appeared some time before her marriage. At the third month of a seventh pregnancy she was attacked by an annoying, dragging sensation on the left side of the hypogastrum. The tumor hitherto observed in the latter region disappeared, and she discharged blood by the vagina. By placing her hand over the inguinal hernia, she discovered there a hard and strange body that was painful on pressure, and which she several times attempted to push back again without success. Several weeks afterwards she felt some movement at that point, and she sent for a physician, who detected at the lower and right portion of the abdomen a tumor that descended on the thigh of this side, covering the pubis, and even extending across as far as the left thigh; this tumor was twenty-six inches in circumference at the middle, and twenty-four inches at its junction with the abdomen. Several attempts

¹ Cazeaux, p. 720,
at reduction were made without effect. The pains came on at the eighth month, and hysterotomy was then performed, but the reduction was still impossible after the delivery, and the uterus was left on the exterior. Both the mother and child were saved. (Ledisma de Salamanca: Gaz. de Med., 715, 1840.)

Case III. 1—The wife of a cooper, while assisting her husband in splitting a hoop from a pole, was struck in the left groin with one of the ends of the pole. Some time afterwards there super-
vened a hernia at the part injured, and it arrived at such a size as not to admit of being reduced. The woman was pregnant at the time. The tumor increased in volume from day to day. One could easily both feel and see the movements of a child under the integuments of the part. The descent at length be-
came so considerable that she found herself obliged to sustain it by a bandage; and to support it, sometimes on one thigh, and at other times on the other. This state of things naturally causing great anxiety to the friends and husband of the patient, they requested the professional aid and opinion of Sennert, who at once told them that he saw no probability of her being able to bear a child by the natural passages, and that it would be neces-
sary to open the tumor in order to give it birth. At the end of the ninth month the woman was taken in labor. The pains were strong and long-continued. Sennert's advice was adopted; the uterus was opened, and a living child, with its placenta, was brought through the wound. It was found impossible, even after the operation, to effect the reduction of the womb. The edges of the external wound were made to approximate by means of sutures. The uterus gradually contracted, and the patient had all but recovered, when she again sank suddenly into a state of extreme feebleness, and died. A post-mortem examination threw no light on the cause of death. All the external parts presented their natural appearances.

Case IV. 2—A woman, aged 38, the mother of eight children, the last two being twins. She had had a left inguinal hernia since childhood, which had gradually developed as the result of hard work. Finally, after bending, a hard mass came into the hernial sac which she could not replace. Menstruation stopped, the sac increased in size, and movements in it became apparent. Three months after the movements were first felt, and five months after the incarceration, labor pains began.

Operation.—The sac, which reached almost to the knees, was incised, and uterine-like tissue was apparent in the sac. This was incised and a living child was extracted, which lived about an hour. The mother recovered.

Case V. 3—A woman, aged 32, had had her fifth child two

2 Skrivan.
years before, and shortly after it noticed a painful, egg-sized tumor in the right inguinal region. This tumor enlarged and menstruation stopped. There was severe pain on movement and exercise, so that she spent most of her time in bed. In the beginning of June, movements like those of a fetus were distinctly felt in the tumor. In the middle of October, the normal end of pregnancy occurred.

Status praesens.—A pediculated, oval tumor, originating from the right inguinal region, was lying between the thighs, its greatest length being 42 cm., and its greatest breadth 25 cm., and reaching to her knees. An ovary was distinguished in that portion of the tumor turned towards the right thigh. The fetal head was in the upper part and its movements were plainly felt.

Diagnosis.—Development had taken place in one horn of a one-horned uterus, outside of the abdominal cavity.

Operation.—As labor seemed impossible, the tumor was incised on the 22d of October and a living child extracted. There was a slight hemorrhage, which was easily controlled. Placenta could not be removed. The mother died on the evening of the same day.

Case VI. 1—Anna Maria Bönert, 32 years, two children, one miscarriage, left inguinal hernia, containing uteri in fourth month of pregnancy. Admitted to gynecological clinic, in Würzburg, Nov. 26th, 1869. The history made it probable that the uterus was in the hernial sac before the last conception, which terminated spontaneously in the third month. Scanzoni introduced an elastic catheter into the uterus, and injected 3 oz. of tepid water through it. Mundé (who was at that time assistant at the clinic) re-inserted the catheter after two hours, it having slipped out, and injected 3 oz. more of water. In twenty-four hours the fetus and secundaries were expelled. When discharged on the eleventh day, the hernial tumor had diminished 7 cm. in length and 10 cm. in circumference.

Case VII. 2—Caroline Hoffmann, aged 20, three confinements. The left uterus and ovary could be felt during pregnancy as the swelling produced by an inguinal hernia. Examination showed a solid hernia, dull on percussion. Three weeks later, spontaneous birth of child before arrival of midwife. Three weeks later, left uterus and ovary found in hernial sac.

2. Crural Hysterocele.—The uterus enters the crural hernial sac with its fundus foremost. It may occur in the gravid as well as in the non-gravid uterus.

Some doubt exists as to the case reported by Doringius, in

1 Scanzoni's Beiträge, 1873.
2 Olshausen and Leopold: Archiv für Gynäkologie, v., 1, p. 41. Duplex Uterus; Left Hematometra Uteri; Twice Punctured; Third Pregnancy, Left Uterus and Ovary could be felt in an Inguinal Hernia.
which the tumor, formed by the pregnant uterus, was situated towards the groin. It was undecided whether the hernia proceeded by the inguinal or crural ring, or through a separation of the fibres. The tumor had gradually increased since the first labor, which was difficult. The uterus was irreducible, and Cesarean section was performed. The mother died, but the infant survived.

Hildanus, in his "Chirurgical Observations," quotes a letter from Doringius, in which that physician reports a similar case of displacement of the uterus, from Nicolas Polinus' Silesian Journal, of which the following are the particulars:

Case VIII.1—A poor woman of Nisse, in Silesia, was the mother of nine children in fifteen years' marriage. In her first confinement she was deserted by her midwives, in consequence of her violent temper, and was therefore under the necessity of being delivered by herself. She felt, on that occasion, that something very extraordinary had taken place in the lower part of the abdomen. She nevertheless brought into the world in subsequent years seven more children without sustaining any unusual difficulty, although without any professional assistance. She had not been long pregnant for the ninth time, when she perceived in her left groin, and under the integument of the part, a tumor which gave her great uneasiness. This tumor, in the sequel, increased so much in magnitude as to have equalled a beast's bladder in a state of the utmost distention, and became so monstrous in its dimensions as actually to reach the patient's knees. It was then easy to ascertain, the fact that a fetus was inclosed within it. The woman experienced the most intense pains whenever she found it necessary to relieve herself or to change her position. As the full period of her gestation approached, the Senate of Nisse having been advised of her poverty, extended their protection to her, and consulted a physician and many surgeons in her case. It being impossible to effect her delivery in the ordinary manner, it was the result of the opinions thus obtained that it should be proposed to make an incision through the parietes of the tumor, although it was acknowledged by each and all that they had never seen or heard of such a case. The operation was performed, and a living, well-grown child was brought into the world, which, although very strong, did not live more than a few months. The mother died about three days after, having suffered unheard-of pains.

3. Ischiatic Hysterocele.—The uterus enters the hernial sac, which has already passed through the greater ischiatic notch.

I have not been able to find a case of this kind in the gravid uterus, but on account of its rarity will reproduce the case of Papen, in which the hernia of the non-gravid uterus was incomplete.

Case IX.—A tumor of considerable size was present on the buttocks of a woman which had the form of a flask, and reached to the calf of the leg. It was an ell long, and was covered by a glistening, stretched, tense skin, and was traversed by large blood-vessels. The tumor, which was thin above, thick and broad below, stretched from the right side of the anus over the glutens maximus as far back as the sacrum, and had a round, elongated form. On opening the abdomen, almost no intestines were found in it, as they lay in the hernial sac. The uterus lay at the mouth of the hernial sac, while the right ovary, which was diseased, lay with its Fallopian tube inside the sac. The internal opening of the sac lay near the coccyx, and stretched upward alongside the sacrum. Hence the contents of the sac had sunk through the sacro-sciatic notch.

4. Hysterocele through the Foramen Obturatorum or Ovale. —The uterus is found protruding through the foramen ovale of the hip bone. I have not found a case of hernia of the gravid uterus in this variety.

5. Hysterocele Umbilicalis.—The pregnant uterus passes into an umbilical hernial sac during gestation, and gradually enlarges it as the product of impregnation grows. Cases illustrative of this form are given by Léotaud, Murray, Olliver, and Hagner.

Case X.—October 21st, 1856, Léotaud examined a negress. She had a tumor in the umbilical region which was recognized to be a hernia. The tumor presented the exact form of a sphere whose covering was thin where it reposed against the abdomen. It was sessile and separated from the abdominal walls by a constriction 42 cm. in circumference. The tumor was 62 cm. in its greatest circumference. The linea alba divided it into two equal parts. The umbilical cicatrix, entirely effaced, is recognized by the wrinkles. The navel is found 4 cm. below its normal position. Dullness and fluctuation on percussion. Upon palpation it is found to contain the superior and middle parts of an eight-months' fetus in the podalic position. Sounds of fetal heart upon auscultation. The tumor was reduced without difficulty, but the patient experienced difficulty in respiration. After reduction, the sides of the opening which has given passage to the hernia are not at all interrupted in their circle. Abdominal walls are normal. The linea alba below the tumor is not torn.

It was impossible to touch the neck of the uterus. The vaginal walls were tender. General health fair. Occasional pains were felt in the loins, compelling the patient to remain in bed.

November 14th.—First labor pains. During the uterine contractions I gently pressed the tumor in order to effect reduction. Labor progressed with regularity, the feet presented, and she gave birth to a full term female child.

This was her fourth pregnancy. In the first two she had noticed a tumor in the umbilical region, which remained soft and easily reducible. In the third it had become more developed, and contained a body which was hard, and was often the seat of very pronounced movements. She always believed these movements were caused by the feet of the child which she bore.

In this case I have not been able to find the proper character of the anterior wall of the uterus, but the abdominal wall in the neighborhood of the tumor has a natural appearance, and its tension would suggest that which exists in a woman in the fourth or fifth month of pregnancy.

The round form of the tumor, its strangulation at the point of attachment, limited to the abdominal wall, and describing a well-marked circle, would exclude the idea of evagination. The uterus escaped from the abdominal cavity by the umbilical ring, but he could not tell at what stage of pregnancy the uterus began to escape from the ring, unless it was at the fifth month.

Case XI.1—Mrs. M. A. J., 30 years of age, and the mother of three children, was greatly alarmed one morning on observing some blood issuing from her navel. Springing to her feet from the recumbent position in which she had been lying, the whole of her bowels, as she imagined, immediately burst through the part where the blood had appeared.

On visiting her she was found leaning against the side of her bed, apparently in great pain, with both hands supporting the abdomen, which appeared enormous in size. She supposed herself pregnant, and in the eighth month of gestation. On examining the abdomen, a large, firm tumor was discovered, the size of a gravid uterus in the latter months. Proceeding more carefully with the examination, the head of a fetus could be distinctly felt at the right and upper portion of the umbilical tumor, the remainder of its body extending obliquely downward towards the left side. There was superficial excoriation of the skin around the navel, but no division of the linea alba whatever, either upward or downward, the continuity of the ring being perfect. The coverings of the hernia consisted of skin, fascia, and peritoneum. The tumor evidently consisted of more than two-thirds of the uterus, the lower part towards the os, lying in the grasp of the umbilical ring. It measured seven or eight inches by five. The Fallopian tubes were easily recognized as forming part of the hernial tumor. An examination per vaginam proved that no os

uteri could be felt with the finger, and the vagina was greatly elongated, and narrowed, particularly the upper and uterine extremity of this canal.

It being evident that the patient was laboring under an umbilical hernia, and that the protruded mass was no other than an impregnated uterms of about seven months, the proper course of treatment appeared to be to replace the tumor, if possible, and then to keep the organ in situ until parturition should take place. The umbilical ring, as already stated, was well marked, and measured from three to three and a half inches in diameter; it was capable of great distention. The patient being placed in the most favorable position for reduction, gentle and careful manipulation was exercised, after which, to the astonishment of those present, the whole protruding organ and its contents were returned, with comparative facility, into the abdominal cavity, the ring yielding equally all round to allow of the return of the hernial mass. At first great and immediate relief resulted, but soon afterwards the patient complained of impeded respiration; this, however, was not urgent, and did not long continue. No portion of intestine had protruded with the uterus.

A bandage was now constructed and applied to the seat of the hernia; it answered admirably, and the patient completed the allotted time of gestation, when, after a short and favorable labor, she gave birth to a healthy female child. The presentation was footling as had been previously diagnosticated when examining the tumor externally by means of palpation, after the manner of Professor Braun. The mother always suffered from a small umbilical hernia, which, however, was at all times readily reduced.

Case XII. 1—The mother had an umbilical hernia when a child. She had had one child previously without any difficulty. In her second confinement the abdomen presented a cone-like tumor, with its apex near the umbilicus. After the birth of the child, the placenta not coming away, and the cord being weak and slender, so as not even to bear slight traction, he examined the abdominal walls more carefully, and found the dilated umbilical opening, through which the fundus of the uterus, containing a large substance of some kind, was projecting. This tumor proved to be the fundus of the uterus, and its contents a much larger placenta, presenting through the dilated umbilical opening of the mother. The tumor was slightly constricted at its base by the recti muscles. He slightly elevated the tumor, turned it downwards, and with considerable noise it entered the abdominal cavity, after which the placenta, weighing 8 lbs., was easily delivered.

Case XIII. 2—In July, 1884, I delivered Mrs. Blank, a primipara, with forceps, of a full-term female child, with slight laceration of the perineum, which was immediately stitched and healed

1 Olliver, Western Journal of Medicine, 1867.
2 Hagner’s case—unpublished.
the Pregnant Uterus.

perfectly. She made a good recovery, and showed no signs of ventral hernia.

March, 1886, Mrs. B. was delivered of her second full-term female child without forceps, the perineum remaining intact. The labor was short and normal. Within three months the patient called my attention to a "lump" about the umbilicus. Upon examination I found an umbilical intestinal hernia about the size of an egg, which was readily reduced—the opening being large enough to permit the introduction of the end of the finger. An abdominal truss retained it. She wore this until she was taken in labor with her third child in February, 1888.

On the 8th of February, 1888, at 10 o'clock A.M., I was called to see Mrs. B., and found her in the first stage of the labor, the os dilating and the pains frequent. I remained an hour, when, everything progressing normally, I left her for an hour and a half. Upon my return I found that the bag of waters had ruptured; patient in active labor; os fully dilated, and the head engaging in L. O. A. The labor progressed normally and actively for about an hour and a half, examinations being made from time to time. Suddenly the patient, after a violent pain, called out, and said: "Oh, doctor, I am tired out; I can no longer bear down." It had been about ten minutes since my last examination. On approaching the bed I observed that the abdominal tumor, heretofore perfectly normal (Fig. 1), presented a peculiar appearance, being much more prominent, and seeming to project at a right angle to her body, she lying on her back (Fig. 2). Upon lifting the sheet I was startled to find the uterus had left the abdominal cavity, and was covered only by the skin, which was very tightly stretched, and seemed as thin as tissue paper.

The uterine vessels were clearly seen, also the contractions, when a pain came on. The head at this time was in the vagina, and I immediately saw that the woman was correct in saying that she could make no expulsive effort. Notwithstanding the uterine contractions, which were regular, strong, and visible, the head not advancing, and the patient becoming exhausted, I immediately applied the forceps and delivered the child. There was
no difficulty in applying the forceps, as the head was well down; but the impossibility of restoring the uterus to its normal position, and its tendency to fall to one side or the other, made it necessary to have the nurse support it in the median line until the child was extracted, which proved to be another healthy girl. The placenta was quickly extracted by the hand, as the patient seemed exhausted and I very anxious to terminate the labor.

As soon as the placenta was removed there was little trouble in replacing the uterus through the opening in the walls of the abdomen, it having thoroughly contracted and reached its proper size. The woman recovered. A small opening remains. No inconvenience.

6. Hysterocele Ventralis.—Ventral hysterocele occurs exclusively in pregnancy, and particularly in women with narrow pelves and greatly relaxed abdominal walls. It is the most frequent variety. Kiwisch calls it eventration. It is a protrusion through an accidental rupture of the aponeuroses, and of the muscles of the abdomen. No authentic cases of it can be found except those associated with pregnancy. Hernia of this character has been confounded with extreme anterior obliquity, carried to such an extent as to propel the fundus uteri upon the anterior surface of the thighs, in consequence of the great relaxation of the abdominal parietes.

Cases of ventral hernia of the gravid uterus have been reported by Ruysch, Rousset, Petit, Kennedy, Butler, Bell, Fry, and Saxtorph.

Case XIV.¹—A woman noticed in the abdomen near the ingui-

¹ Ruysch, Advers. Anatom., Amstelm., 1717, Obs. 9, p. 22.
In the pregnant uterus, a small projection, at the place where she had formerly had a suppurating wound. At the beginning of pregnancy the uterus pressed through a crevice of the abdominal muscles, and stretched the peritoneum, so that the pregnant uterus lay in a sac of its own outside the abdominal cavity. The sac was formed by peritoneum and by the integuments. The more the uterus enlarged as pregnancy progressed just so much did this projection increase, until at the end of pregnancy it reached as far as the knees. In labor the midwife lifted the hernial sac and supported it in such a manner with the hand that the child's head encountered the opening of the hernia, and engaged at the pelvic inlet. The woman was safely delivered of a living child without artificial help. There were no further difficulties.

Case XV. — A woman, while lifting a heavy weight, produced a hernia, which reached from the navel to the mons. This probably consisted in a stretching apart of the abdominal muscles in the region of the linea alba. She suffered a great deal from this hernia. An operation was successfully performed. She became pregnant a short time after the operation. Now an operation could not be attempted. The hernia reached a larger size than before, and caused her much inconvenience. She wore a binder, fastened around the shoulders, in which the belly rested. From the middle to the end of pregnancy movements were felt plainly and superficially. The delivery was remarkably easy, as, indeed, was a subsequent pregnancy and labor, although in both labors not the least assistance to the pains was derived from the action of the abdominal muscles. After this she lived a considerable length of time as a widow without experiencing any disturbance of her general health.

Case XVI. — A woman, who had been in labor three days, experienced, on a sudden, violent pain, with a sense of laceration of the abdomen, followed by extreme weakness. J. L. Petit found, upon examination, "ventral hernia extending from the umbilicus as far as the os pubis, and another from the umbilicus as far as the ensiform cartilage. The former, that is the lower one, was so considerable, that the recti muscles were separated from each other by a distance of nine or ten inches. It was stated that this tumor had been of long duration, and had increased at each pregnancy, and at each labor; that six months previously it had increased more rapidly, but had reached the enormous size which I had witnessed only three days before." This increase seemed clearly attributable to a sudden yielding of the linea alba, which had been effected with much pain, and even a noise. The infant was hydrocephalous. Petit pierced the skull with a bistoury, and, at the same time, took care to compress and support the abdomen by means of a bandage and small pillow. The extraction was not difficult, and the woman soon recovered.

1 Rouxset, Hysterotomokia, p. 56.
2 "Œuvres posthumes," t. iii., p. 264.
Case XVII. — A woman, who had had a number of children, when in labor of her second child, noticed a tumor at the umbilicus which gradually increased in extent with each child she carried, until at length the impregnated uterus made its way completely out of the abdomen, and became suspended over the pubis. At the expiration of the ninth month, when carrying her twelfth child, the pendulous tumor corresponded with that presented in Figure 3.

Case XVIII. — "In 1833, August 5th," I visited Mrs. D——, at Woolwich, in consultation with Dr. Stewart, of the Artillery, and Mr. Butler, Senior, of Woolwich. The lady, a native of Malta, had till within the last few years resided in that island, and shortly before coming to England had been dangerously ill from epidemic fever. As the result of this attack, a large abscess had formed in the linea semilunaris of the left side, and a considerable portion of the muscular structure was destroyed by ulceration. The matter was evacuated by the lancet, exceeding a quart in quantity. In the course of a few weeks partial granulations were formed, and the wound was cicatrized; but there was

evident loss of substance about the part, and a depression existed in the adjacent muscle, of the size of a crown piece, satisfying Dr. Stewart that in this spot there was only peritoneum and the common integument, the intervening tissue having disappeared. She conceived almost immediately, and came to England. At my visit she supposed herself more than seven months pregnant, and the question to be determined was, whether extra-uterine pregnancy existed. This was soon determined in the negative: it was a case of extra-abdominal, not extra-uterine pregnancy: and the appearance of the patient was most singular. Through the aperture in the abdominal muscles, the uterus had gradually passed, soon after rising out of the pelvis; and in proportion to its subsequent growth, the fundus had descended lower and lower, covered, not as in ordinary pregnancy, with the abdominal integuments entire, but only invested with the peritoneum and skin; so that at this period (probably a little beyond the seventh month) the gravid womb formed an immense ovoid tumor, the greater extremitv being inferiorly, reaching nearly to the left knee, the tumor gradually diminishing in breadth as it approached the abdominal aperture. The os and cervix were, however, within, so that there was great stretching of the uterine walls in the erect posture, and there must also have been considerable curvature at this point. The movements of the child were distinct and strong.

We agreed that she should maintain the recumbent posture till labor occurred, and then that she should be delivered on the right side; the womb being supported, and its return into the abdominal cavity being aided by gentle manual pressure. Mr. Butler, who attended her confinement, told me it required a good many hours of pain and gentle pressure to get the uterus replaced; but he succeeded, the presentation was natural, and both the labor and recovery were good."

Case XIX. 1—Bell was called May 5th, 1849, to Madame M——, in her fourth confinement. After a moderate labor of six hours, she was delivered of a female child. As soon as the cord was cut and the child was confided to the nurse, he applied, as was customary, his hand to the abdomen, and found, to his great astonishment, the anterior and upper part of the uterus entering a gap which comprised the whole of the linea alba from sternum to pubis. The uterus appeared so large and hard that he did not doubt that it contained a second fetus. On vaginal examination, he discovered the membranes of another child, and having broken them, he learned that it presented with its breech towards the abdomen of the mother.

On replacing the uterus into the abdominal cavity, and fixing it firmly in this situation with two hands until the child was born, which took place half an hour after the first, the joined placentas followed immediately, and the uterus contracted and

descended into the hypogastrum. A compress and bandage were applied. The woman had a slight attack of peritonitis from which she soon recovered.

Three months afterwards the abdomen was examined, but there was no trace of the rupture.

Case XX. — Had been called to see a multipara, in the sixth month of her fifth or sixth pregnancy, for a tumor in the abdominal wall. The tumor had existed in previous labors, but she experienced no difficulty from it during labor. Examining it, he found that the pregnant uterine protruded through an apparent separation of the linea alba. The diagnosis was not difficult. The tumor was pear-shaped, with its apex pointing downward. There was an edematous swelling of the abdominal wall so that it hung down over the vulva like a bag.

Case XXI. — A woman, the period of her gestation not being stated, became the subject of a voluminous tumor, which presented at the right groin, and occupied a large space on the anterior and interior part of the corresponding thigh, and reached even to the knee. It was of a roundish form, covered with common integument, elastic to the touch, presenting a manifest fluctuation, but was not painful. The woman, who had already had four children, expressed her assurance that she had felt in this tumor motions like those of a living child; and this was confirmed by M. Sager's testimony of his having himself distinguished, through the integuments, the form of a fetus. After consulting Dr. J. S. Saxtorph by letter, M. Sager was induced to send his patient to be under the immediate care of that gentleman. She was admitted into the lying-in hospital, under the direction of Dr. Saxtorph, when the tumor had acquired about the size of an uterus at seven months' gestation. "But," observes Saxtorph, "I could not feel the motions of the child within it; I only recognized a fluctuation, which indeed was evident enough. In making an examination per vaginam, I found the orifice of the uterus as it generally is in women who have had many children; but I could not distinguish at its neck any body bearing upon it. These observations were confirmed by M. Bang, Jr., and Mme. Frost, the head midwife of the hospital. In examining with more care the origin of the tumor at the groin, I found that it commenced near Poupart's ligament, in such a manner, however, that it did not pass under this ligament, but was rather adherent to it. By placing the hand on the neighborhood of its origin, and also above and below it, and by compressing the integuments as much as possible, one could not ascertain that any, or any part, of the abdominal viscera, with the exception of the uterus itself, had been pushed into the tumor." The patient was admitted into the hospital on the 24th

2 Davis, loc. cit, p. 916.
of August, when she was considered as having pains premonitory of the speedy accession of labor. The case was seen by many physicians and surgeons, and by several pupils of the hospital, of whom the greater number came to the conclusion that the swelling at the groin was not the effect of any malposition of the uterus, but that it was a case of an encysted tumor, and that it contained no fetus. Inasmuch as the pregnancy was very doubtful, and the rules of the hospital not permitting the reception into it of any person not actually in labor, it became necessary to transfer the patient from the lying-in hospital, whither she was first sent, to the civil hospital, to be under the care of Professor Thal.

On the following day, that learned professor reported that he had himself seen on the preceding evening the movement in the tumor as originally described by M. Sager, and that he did not at all doubt that they were occasioned by the presence of a child.

On the 13th of September she was again examined by Saxtorph, when the tumor was increased in size, but her functions generally were moderately well performed.

"On the 1st of October," proceeds that gentleman's account, "M. Thal informed me that on the preceding night an aqueous fluid, which was inodorous, had escaped in abundance from the vagina without being preceded, accompanied, or followed by any pain. The size of the tumor had sensibly diminished, and the feeling of tension which had previously attended it was much diminished. I was not able by means of the taxis to recognize any positive change in the state of the orifice of the uterus. But in examining the external surface of the tumor I fancied I could distinguish a resisting substance similar to the body of a fetus. Having several times put my hands cold upon its surface, it afforded me no spontaneous movements. Dr. Thal, however, reported to me that M. Hahn, first surgeon to the naval legion, had distinctly perceived such movements on visiting the patient some hours before.

"On the 2d of October the patient was taken with acute pains in the tumor. These pains were intermittent, and accompanied by efforts such as are usually incident to the function of parturition. The tumor exhibited contractions similar to those which the fundus of the parturient uterus is the seat. It was now determined to send the patient back again to the lying-in hospital. That object having been effected, the midwife examined the vaginal part of the uterus, and found its orifice dilated to the extent of an inch and a half. The vertex of the fetal head was felt soon afterwards to present, accompanied by a prolapse of the umbilical cord. The pains continued with much force and regularity, but the tumor did not advance in proportion to their intensity. The waters escaped not in greater quantity than on the night before; the vagina was, however, sufficiently lubricated with the usual mucus, tinged with blood.

"I saw the patient again in the forenoon, accompanied by
Professors Fengel, Thal, and Bang. The dilatation of the neck of the womb was greater. The head of the fetus filled a greater space within the brim of the pelvis. The integuments of the head began to tumefy, and a larger portion of the umbilical cord had descended into the vagina. After the lapse of some hours the pains became less urgent. Nevertheless, the head of the child had advanced further within the brim of the pelvis, and was presenting in a good position. It was, however, far from clearing the os uteri, which still remained insufficiently dilated. At five o'clock the pains were vigorous; the head was advancing, but very tediously; but the dilatation of the uterine orifice was still going on, and at eight o'clock in the evening it was quite obliterated.

"The head now became engaged in the pelvic cavity, and the violence of the contractions pushed it by degrees towards the inferior aperture. . . The patient was delivered at nine o'clock the same evening, by the unassisted efforts of nature, of a still-born female child, which weighed five pounds and a half, and of which the length measured eighteen inches. After the birth of the child, the tumor, of which it had formed the greater part, diminished in bulk. It no longer descended so very low as it had done, and it could be easily lifted up towards the abdomen. After having waited in vain for three-quarters of an hour for the spontaneous expulsion of the placenta, I decided on the propriety of carrying my hand into the uterus, in order to finish that part of the labor, the patient being a good deal exhausted. No hemorrhage took place. The tumor, which I well recognized as being the uterus, preserved very nearly the same size and shape as it immediately acquired after the birth of the child. I then surrounded the abdomen with a broad bandage, by the aid of which I supported the tumor in such a manner as to prevent its falling on the patient's thighs.

"The sequel of the case was very prosperous. . . Twenty days after her delivery the woman was discharged from the hospital. A greater part of the uterus remained extra-ventrally situated and formed a hernia, complicated with the presence of some sort of cyst charged with fluid, which could be easily distinguished by the touch. We could now, more distinctly than before the delivery, ascertain the fact that the uterus had not got out of the abdomen by any natural opening, and that, on the contrary, it had passed between some fibres of the abdominal muscles."

Etiology.—When the anatomical position of the uterus, both as regards itself and its connections, is understood, it is difficult to imagine how it can be raised sufficiently to press against the abdominal parietes, and pass through their narrow openings at the lower part of the abdomen. This will, however, be better understood from the following considerations: (1.) It is gener-
ally in the earlier period of pregnancy that hernia is produced, when the uters is not only increased in volume, but also in height and weight. (2.) It frequently escapes, not through a natural opening enlarged, but by a separation of the parietes of the lower part of the abdomen, by a re-opened cicatrix, etc. (3.) In some cases it passes through a natural opening, such as the crural or umbilical ring which are weakened in their circumference by repeated efforts and continued pressure, begun at first by one of the ovaria, or by some tumor of the omentum, which drags down the uterus by adhesion. (4.) Some of these displacements occur in the embryo, when the fundus of the uterus has little volume, is situated immediately above the pelvis, and would easily follow one of its supra pubic ligaments, when shortened, through the inguinal canal, which is sufficiently open at this period, and even provided with a peritoneal sheath (canal of Nuck); the same shortening may, by degrees, produce similar effects in adults.

In most cases the displacement of the uterus had existed prior to the fecundation, and the organ was situated without the abdominal inclosure, and continued to develop until full term. In some others, more difficult to admit, this organ having attained a certain degree of development, gradually dilated one of the rings, and constituted an external hernia.

Hysterocele in a vast majority of cases is a secondary affection. The ovaries and oviducts first enter the hernial sacs and become adherent to them, or rather that portion of the peritoneum which is nearest to the superior extremities of the broad ligaments forms the hernial sac, and the ovaries and oviducts are dragged into it. The size of the sac increases at the expense of the peritoneum constituting the broad ligaments, by which latter the uterus is gradually drawn to the hernial ring, and finally enters the sac. In many cases the uterus follows a prolapse of the omentum or intestine into a hernial sac, especially if there are adhesions between the omentum or intestines, and the uterus. In such cases impregnation takes place in the hernial uterins.

Predisposing Causes.—Rapidly succeeding pregnancies, causing stretching of the peritoneum and abdominal parietes—this is especially so in ventral hernia—weak points in the abdominal parietes from laparatomy, wounds, abscesses, or ulcerations, fatty abdominal walls, and pre-existing intestinal hernia.
Exciting Causes.—The exciting causes of hernia of the uterus are such as are usually seen in hernia of the intestines.

Symptomatology.—The symptoms are such as are found in hernia of the intestines.

Diagnosis.—The diagnosis in the early months of pregnancy, especially if the vaginal portion of the uterus and the neck of the bladder are drawn into the hernial sac, is difficult. After the fifth month the objective signs of pregnancy will be of great value. It is sometimes very difficult to differentiate hernia uteri from extra-uterine pregnancy. A thorough knowledge of the combined methods of examination will render the diagnosis of hernia of the pregnant uterus comparatively easy.

Externally, undue distention of the abdomen in some particular part by the presence of a large uneven tumor, through which can be felt the form of a child, and at times its movements, will make the case very clear. This should be confirmed by auscultation, when the fetal heart-sounds will be heard, and the placental bruit will be unusually distinct.

Internally, the absence of the uterus in the pelvic and abdominal cavities, the cessation of the menses, the enlargement of the mammae and their areolae, and the gradual, regular, and rapid development of the tumor, would leave little doubt of the nature of the case.

Prognosis.—The prognosis will vary according to the nature of the case. Both mother and child have been saved with and without artificial assistance. In some cases delivery has taken place after the uterus was simply elevated. In inguinal or erural hernia the prognosis is unfavorable, as an operation is imperative. Spontaneous delivery is not to be expected; it only occurred once in the ten cases reported.

The prognosis is favorable in umbilical and ventral herniae.

Treatment.—The successful treatment of this uncommon complication of pregnancy demands good judgment and scientific skill. Reposition should be attempted by using gentle taxis—especially in the early stage—great care being exercised to avoid the production of abortion. If the tumor cannot be replaced, it should be supported by a properly adjusted bandage, and be allowed to go to the end of gestation. If it is reducible, a well-adjusted truss will prevent its escape again.

If the fetus can pass through the hernial ring, the induction of premature labor, as in Scanzoni's case, is advisable.
Turning and delivering by the podalic method should be tried.

Hagner terminated labor successfully with the forceps.

Winckel saved the mother by Saenger's operation, when the dead fetus was too large to pass through the inguinal canal.

If the child cannot be delivered by the natural passages, one of the Cesarean operations should be performed.

That delivery could be accomplished in hernia of the uterus without marked artificial assistance, such as Cesarean section, was maintained by Rousset long before Ruysch.

Pregnancy in inguinal and crural herniae will almost always require the Cesarean operation.

Result to Mother and Child.

<table>
<thead>
<tr>
<th>Variety</th>
<th>Mothers saved</th>
<th>Mothers lost</th>
<th>Children saved</th>
<th>Children lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inguinal</td>
<td>5</td>
<td>4</td>
<td>8</td>
<td>(Still-born) 1</td>
</tr>
<tr>
<td>Crural</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Umbilical</td>
<td>4</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ventral</td>
<td>6 (not stated)</td>
<td>5 (twins)</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

Of the two deaths, one was a craniotomy and one a still-birth; and two were not stated.

Total—Mothers saved, 15; not stated, 2; mothers lost, 5; children saved, 18 (twins); children lost, 3; not stated, 2.

Cesarean section was performed 7 times: mothers saved, 2; deaths, 5; and 7 children were saved.

Porro's operation was performed once, the mother being saved but the child was stillborn.

Induction of premature labor once; both mother and child saved.

In 1 case of inguinal hernia the labor was spontaneous.

In the umbilical and ventral varieties the delivery was mostly natural, with support of the uterum, except in one in which forceps were applied with a speedy termination of the labor. All the mothers were saved, but one child was killed by craniotomy. In this case no reason is given for the craniotomy. The diagnosis was made early, and the delivery was effected by supporting the uterus.

With the valuable assistance of Drs. George Woodruff Johnston and Andrew F. Hofer and Mr. John S. Van Rensselaer, I have been searching for some time for the cases of hernia of the pregnant uterus, and now believe that all reported are included in this paper. The cases of Pol and Winckel are
Adams: Hernia of the Pregnant Uterus.

referred to by a number of writers, but a diligent search for
them by the references given proved fruitless.

As a result of our investigation, the following summary is
given:

Varieties.—10 inguinal; 1 crural; 1 sacro-sciatic; 4 umbilical;
and 8 ventral.

Time of Diagnosis.—In inguinal and crural, early; in um-
bilical, after the eighth month; and in ventral, in the majority,
after the fifth month.

Treatment.—In inguinal, Cesarean section was performed six
times; Porro’s operation once; the induction of premature
labor once; and delivery was spontaneous once.

In the case of crural, Cesarean section was performed.
In the umbilical, the uterus was supported in two; forceps
were applied in one; and the delivery was natural in one case.

In ventral, the uterus was supported four times; natural de-
livery twice; and not given twice.

<table>
<thead>
<tr>
<th>Reported by</th>
<th>Variety</th>
<th>Time of Diagnosis</th>
<th>Treatment</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisher</td>
<td>Rt. inguinal</td>
<td>6th month</td>
<td>Cesarean section</td>
<td>Death 2d Saved.</td>
</tr>
<tr>
<td>Pol</td>
<td>Rt. inguinal</td>
<td></td>
<td>Cesarean section</td>
<td>Death 3d Saved.</td>
</tr>
<tr>
<td>Ledisma</td>
<td>Rt. inguinal</td>
<td></td>
<td>Cesarean section</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Sennert</td>
<td>Lt. inguinal</td>
<td>Early</td>
<td>Cesarean section</td>
<td>Death    Saved.</td>
</tr>
<tr>
<td>Skrvan</td>
<td>Lt. inguinal</td>
<td>Early</td>
<td>Cesarean section</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Rektorzik</td>
<td>Lt. inguinal</td>
<td>4th month</td>
<td>Cesarean section</td>
<td>Death    Saved.</td>
</tr>
<tr>
<td>Scanzoni</td>
<td>Lt. inguinal</td>
<td>4th month</td>
<td>Induced abort.</td>
<td>Saved    Still-born.</td>
</tr>
<tr>
<td>Winckel</td>
<td>Lt. inguinal</td>
<td>Early</td>
<td>Porro’s method</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Olshausen</td>
<td>Lt. inguinal</td>
<td>Late</td>
<td>Spontaneous deliv.</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Doringius</td>
<td>Crural</td>
<td>Early</td>
<td>Cesarean section</td>
<td>Death    Saved.</td>
</tr>
<tr>
<td>Léotaud</td>
<td>Umbilical</td>
<td>8th month</td>
<td>Support</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Murray</td>
<td>Umbilical</td>
<td>8th month</td>
<td>Natural</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Olliver</td>
<td>Umbilical</td>
<td>8th month</td>
<td>Support</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Hagner</td>
<td>Umbilical</td>
<td>9th month</td>
<td>Support</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Rysch</td>
<td>Ventral</td>
<td>During labor</td>
<td>Forceps</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Rousset</td>
<td>Ventral</td>
<td>Early</td>
<td>Support</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Petit</td>
<td>Ventral</td>
<td>5th month</td>
<td>Natural</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Kennedy</td>
<td>Ventral</td>
<td>9th month</td>
<td>Support</td>
<td>Saved    Craniot.</td>
</tr>
<tr>
<td>Butler</td>
<td>Ventral</td>
<td>8th month</td>
<td>Support</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Bell</td>
<td>Ventral</td>
<td>During labor</td>
<td>Support</td>
<td>Saved    Saved.</td>
</tr>
<tr>
<td>Fry</td>
<td>Ventral</td>
<td>6th month</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saxtorph.</td>
<td>Ventral</td>
<td></td>
<td>Natural</td>
<td>Saved    Still-born.</td>
</tr>
<tr>
<td>Papin</td>
<td>Sacro-sciatic</td>
<td>Non-pregnant</td>
<td>Laparatomy</td>
<td>Not given Not given.</td>
</tr>
</tbody>
</table>
A REVIEW OF THE TREATMENT OF UTERINE DISEASES
BY ELECTRICITY.¹

BY
J. R. BUIST, M.D.,
Nashville, Tenn.

GENTLEMEN OF THE ASSOCIATION:—We meet together here, it is presumed, for the high purpose of mutual improvement in the knowledge of that department of the healing-art with which we are especially identified. We hope, by the presentation of facts and observations, by the interchange of thought, and especially by the review and analysis of medical literature, to keep ourselves abreast of the advancing column of scientific medicine, marching to the relief of human suffering. To contribute my humble quota to this fund, I beg to submit some remarks upon the subject of electro-therapeutics in the sphere of diseases of women. In doing so, I shall attempt neither to eulogize its claims nor to detract from its alleged value and importance; but simply to present, as correctly as possible, its position in the professional mind of to-day, at home and abroad, and to compare the results of this method with its rival surgical procedures in some of the affections of the uterine system.

To the familiar student of gynecology, the past thirty-five years present astounding progress in teaching and practice; investigations have been active and laborious; novelties and innovations have teemed from all quarters, and the results attained have been unexampled. It was at the commencement of this period that the zealous labors of Scanzoni, of Courty, of James Y. Simpson, and Marion Sims were collecting the knowledge from which has since been formulated the present department of gynecology. Many schools have risen and passed away; many phases of theory and practice in uterine pathology have served their day, and now we live in an era when the landmarks of our student days are destroyed; when one hears little of these great names or of their valuable labors, and, like the Athenians of old, we seem to live only "to hear or to tell of some new

thing." In our day, operative measures upon the pelvic visceral have attained their highest development. In fact, the conservative portion of the profession believe it is pushed to an extreme. As Mr. Tait wittily said, with many it is, "Here's something; let's have an operation."

The genius of Battey first demonstrated the possibilities of ovarian extirpation for remote and reflex troubles; and, although at first received with distrust and contempt, at last has commanded just recognition all over the civilized world. Like a pebble thrown upon a quiet lake, its circling ripples expand until they now touch the remotest shores.

Along with this marvelous progress in surgical methods comes the renewed interest in electro-therapeutics as applied to uterine diseases, and, as the adherents of this practice claim, with results positive, satisfactory, and even wonderful. If we read only the accounts of the electro-therapeutists themselves, we shall almost be tempted to believe that the sufferings of women will soon end; and if we listen to the ridicule and contempt of the strictly surgical school, we will think this agent a veritable humbug.

Electricity, as is well known, is no new remedial agent. Its history presents a checkered course of praise and abuse, of success and failure. Leaving out of consideration the centuries preceding the discovery of galvanism, when the torpedo-fish, the magnet, the electric machine, and Leyden jar were applied in a loose and irregular manner to the cure of diseases, we come to the introduction of contact or chemical electricity, now known under the terms galvanism and voltaism, when we find that the great Humboldt published a work on electro-therapeutics. For thirty years after this, there was no real advance in the knowledge of this agent as a remedy. Charlatans and quacks hawked its claims on the streets, and, outside of a few scientific men, the profession allowed it to fall into disrepute. Upon the discovery by Faraday of the induced current, another impetus was given the study and application of this remedy, and the discussion between the friends of the constant and the interrupted currents waxed very hot. Many improvements were about this time added to the batteries for medical use, and their cost materially lessened.

The investigations of Duchenne, Du Bois Raymond, Moritz Meyers, and Remak put the subject of electro-therapeutics
upon a far more scientific basis, and awakened in the medical profession over the world a lively interest. Many works were published, both philosophical and practical, and by 1870 there was hardly an office in city or country where a battery of some sort or other did not form a part of the doctor’s outfit. These batteries, many of them nothing more than toys, soon got into the hands of female doctors, irregulars, and invalidated laity. The result was that, in consequence of the little success the ordinary physician had with this agent the care and trouble required to keep the machines in good working-order, the profession by 1885 had either abandoned the use of electricity or looked upon its employment with great distrust.

About this time, along with improved battery construction, and especially with the addition of an efficient means of measuring the dose or actual current strength by a properly constructed galvanometer or milliamperemetre, as also the further study and scientific application of Franklinism or static electricity in therapeutics, the whole subject of the remedial powers of electricity has been set in a more favorable aspect before the profession than at any previous era. But, more than anything else, the concentration of thought and attention to this agent by that gifted Frenchman, Apostoli, and his great and admitted success in the treatment of endometritis, subinvolution, pelvic inflammatory products, and uterine myomata, has given an astonishing impetus to the study of this remedial agent, filling the medical journals for the last three years, in all parts of the world, with its literature. Clearly, the unbiassed intelligence of the profession of to-day demands a respectful hearing of its claims, and commends it to still further investigation.

The gynecologist of the present day employs electricity under several forms and selects a variety of methods in its application to each particular case and form of diseased structure.

For instance, the employment of the electro-cautery, which, although perhaps not as much in use now as it was some years ago, is recognized as a valuable substitute for the knife or the érasur in cases where hemorrhage is to be dreaded. This cautery is produced by a constant current generated by large cells, and being conducted through a terminal loop of fine platinum wire; by the resistance met with in this wire, it is raised to a white heat.

Another mode of using electricity which is now of very
great assistance to the gynecological surgeon, and developed by the same process as the preceding, is that of illuminating cavities by the incandescent light. In operations within the vagina or in laparatomy, the surgeon possesses the power of ocular demonstration secured by no other means.

I am not aware that any application of the static electricity, known generally under name of Franklinism, has as yet been made in gynecological practice, nor do I think it would possess any advantage over the other forms.

The induced, interrupted, or faradic current has a limited use in pelvic diseases, although according to some very competent electro-therapeutists, the value of this almost equals that of the constant. It is doubtless more in vogue for the treatment of uterine affections than a few years ago. The nature of the induced current is to stimulate and invigorate weakened muscle and nerve tissue, and doubtless much can be effected by bringing it to act on the relaxed uterus and vagina, the uterine ligaments and dilated blood-vessels.

We come now to galvanism proper, which, as you all know, is at least theoretically a constant and continuous current, generated from a connected series of voltaic cells, so as greatly to increase the electromotive power of the current, and as it passes through the tissues, it gives no sense of shock, provided the closing and opening of the circuit is properly performed.

This is the current of most extensive range in the treatment of uterine diseases, and which has to its credit most of the benefits that have followed the electric treatment. The current is sent through the diseased structure or tumor, by means of variously shaped rheophores, according to the mode of action desired, for from five to twenty minutes at a time, and again repeated at longer or shorter intervals. The effect of these often repeated séances is to soften hardened tissue and inflammatory hyperplasia, to diminish the size of tumors composed of fibrous tissue and in some way to modify the nutrition and circulation in the living tissue. The explanation of these alleged results and the nature of this modus operandi have been attempted by the electro-therapeutists; but while they have given some little positive proof, they reason more from the analogy of the effects produced in inorganic chemistry in the process known as electrolysis and electro-plating. The action of galvanism upon water or any other chemical fluid in decompos-
ing it into its elements and attracting one set to the positive and another to the negative is believed to take place, virtually, in living tissue, due allowance being had for the increased resistance to the current. It is said that in electro-puncture the oxygen and acids collect at the positive and the salines and fluids at the negative. That in the use of the soft-covered electrodes applied to the surfaces, it is found that the fluids tend to pass to the cathode. Now they claim that, if such a change, however slight, may be induced in the molecular constitution of a tumor or any other abnormal tissue by a current passing a few minutes, the frequent and repeated application of this force must in the end greatly influence the interstitial nutrition of the part. Another practical fact that further corroborates this theory is, that the positive pole applied intra-uterine proves hemostatic in bleeding from the uterus, while the negative has no such effect. The question whether the galvanic current can directly act upon the cells of the various living structures, and thus influence their growth or decay, is not yet settled among these specialists.

We do not think it is fair to infer that the galvanic current produces a similar effect chemically in its passage through living tissue as it does on organic or inorganic compounds in solutions. The chemical and calorific action of the current is limited to the surface or to the tissue adjoining the electro-puncture. Neither will the doctrine of electric osmosis apply. All that the electro-therapeutists can affirm in reason is, that there is some stimulation imparted by the current, in consequence of which a physiological change is set up in the tissues, which eventuates in absorption and resolution of abnormal conditions.

For relief of stenosis of the uterine canal, accompanied with flexion, the employment of the constant current has given good results. Twenty years ago, Marion Sims placed before the profession his operation of widening and straightening the canal by two incisions, one at the point of flexion, usually the os internum, and the other through the posterior lips. This plan was fully discussed and tried by the profession, and for some years has been pretty well abandoned. Then followed the use of gentle dilatation after Peaslee's plan, and this seems now to be falling into forgetfulness. In place of either of these modes, the electro-therapeutist employs an insulated electrode with an
olivary platinum point for the negative pole, this being carried into the cervical canal while the positive is applied over the supra-pubic region. In this way is obtained the electrolytic action of the current upon the contraction and the surrounding tissues, resulting in a softening and straightening of the canal. Dr. F. E. Bunts, of Cleveland, O., in Med. Record of July 21st, 1888, reports very gratifying success with this method.

The same writer in the above-quoted article highly extols the use of strong currents in the relief of membranous dysmenorrhea—an affection rarely cured by any means, whether medical or surgical, yet employed. The method of treatment is by intra-uterine application of the negative pole.

In the treatment of uterine displacements, a very wide field for any agent, the modern employment of electricity is to be compared to the old methods of replacement by the sound and bimannual pressure, together with a retaining pessary. These procedures are almost universally admitted to be but make-shifts, only palliative, as very seldom does a pessary effect any permanent cure.

Secondly, we may compare the value of this treatment to that of the surgical methods—first, of shortening the round ligaments, Alexander’s operation; and also to the supra-pubic opening of the abdomen, and attaching the cornua of the uterms to the anterior walls of the abdomen by sutures. These are two grave and serious operations that none but an expert surgeon will probably undertake, of course never free from danger even with the most approved asepsis, yet they will give radical and satisfactory cures in retroversion. Narrowing the vagina by surgical methods for support of prolapsus uteri, while not so dangerous, does not give as good permanent results as was anticipated. Now it is claimed that the use of the electric current, both the faradic and the galvanic, will correct these displacements in a manner free from danger, without any cutting, and with permanent results. Dr. Lapthorn Smith, of Montreal, in a very able article in the Amer. Journal of Obstetrics for June, 1888, tells us “that electricity, especially in its faradic form, is the rationally indicated remedy in all forms of displacement.” He points out that the uterine walls themselves are muscular, that the so-called ligaments contain mostly muscular fibre, and that the chief support, the vagina, is a muscular structure. He further contends that displacements are the
consequence of a relaxed and diseased condition of one or all the supports; that it is an admitted property of the faradic current to act as a stimulus and invigorator of muscular tissue; bringing it into exercise and restoring its normal tone. He reports his experience with this method as very successful. Dr. Engelmann in the Obstetric Gazette for April, 1887, strongly indorses the electric treatment in uterine displacements. He, however, would not supplant the accepted surgical means in many cases. From our study of the subject, we believe that electricity will be found a valuable agent in correcting displacements, versions, and flexions, and that there will always be opportunities for its employment, but that in the large number of severe cases of retroflexion, the surgical methods will give the most satisfactory results and are to be preferred.

The employment of electricity for the removal of the secundines and retained portion of placenta after abortions is strongly recommended by Dr. H. D. Fry, of Washington, in a well-written article in the June number of the American Journal of Obstetrics. He employs the faradic for immediate and early removal, and the galvanic for older cases, applying the anode intra-uterine. His theory is that the secundines, being of lower vitality than the normal tissue, are acted on more energetically by the current. We fail, however, to see any real advantage of this method over dilating tents and the curette.

Of late years, the subject of ectopic, or as it is now most commonly designated, tubal pregnancy has engrossed the attention of the profession. The very grave nature of this condition and its heavy rate of mortality has justified almost any radical method for relief. As the diagnosis of this condition can be made sufficiently clear and accurate after the third month, interference by some operative procedure is perfectly justifiable even before rupture and impending death occur. The laparatomists are enthusiastic over the success attained in the last few years under a well-conducted antiseptic operation, and well they might be. In all cases of ruptured sac and hemorrhage, nothing else but laparotomy is to be thought of; but in the event of the early recognition of tubal pregnancy, it appears that the success attending the employment of electricity has afforded the advocates of this plan abundant reason for their faith.

That the life of the fetus in tubal pregnancy can be destroyed by the electric current passed through it, without damage to
the mother, cannot be questioned—sometimes at one sitting, and at others in several applications. It is not a recently introduced mode of treatment, but since the improvements in employing electricity and the light obtained from experience, it now has the support of many able practitioners. The recorded instances also show that, in the majority of cases, the remaining tumor is either absorbed or becomes indolent and harmless. And, further, it can be said in its favor that should either a failure to arrest the growth or to obtain reabsorption occur, laparotomy can be at last resorted to.

The subject has been exhaustively treated in an article in the May number, 1888, of the American Journal of Obstetrics by Dr. A. Brothers, of New York. He has carefully collected and tabulated forty-three cases treated by electricity, along with the name of the operator and consultant, date of report, number of applications, results, etc.

Beginning with the case of Bachetti in 1853, he comes down to his case in 1887. "From this test we see that of the 43 cases, 2 were treated by electro-puncture, 21 by faradism, 16 by galvanism, 2 by both currents, and 1 by Franklinism; in the remaining case, either faradism or galvanism was used, but the reporter does not specify which; 2 cases terminated fatally: the case of Braxton Hicks as the result of subsequent puncture of the cyst five weeks later, and hence the fatal result cannot be attributed to the electricity; and the case of Janvrin, in which hemorrhage was induced from a ruptured artery on the sac-wall, which had spontaneously opened nine days previously. This case should have been operated on by laparotomy at first. In the cases of Mundé, Lusk, Gardiner, Chadwick, alarming symptoms developed for a time, but the patients recovered. In all the cases, excepting 2, the fetus was killed. Of these 2, in the case of Hicks, the method was abandoned after two trials; and in the case of Garrigues, the fetus was displaced from the tube into the uterus, where it continued to grow. In more than half of the cases, it is distinctly stated that the tumor either entirely disappeared or became shrivelled up into a small mass. In the cases of McBurney, Garrigues, and Trush, the current set up contractions in the muscular layer of the Fallopian tube, which resulted in the expulsion of the fetus into the uterine cavity."

This summary of the collected cases presents a very favor-
The treatment of myo-fibromata of the uterus by means of the electric current was inaugurated, in its present shape, by Dr. Apostoli, of Paris, only a few years ago, and has attained a very prominent place in gynecology through his genius, energy, and enthusiasm. To him is due the application of the current in greater force and strength than was before thought safe to the patient. By the precaution of starting the current in a gradual manner, and cutting it off in the same way, and by measuring the dosage with an accurate ampèremeter, he is enabled to use a strength of from 300 to 500 milliampères without exciting unbearable pain. The manner of application is either by placing the negative pole in the uterus and attaching the positive to a layer of wet potters' clay placed on the lower half of the abdomen, by which the current is more diffused and rendered milder, or by electro-puncture per vaginam into the tumor. The theory of the effect is that of electrolysis, as well as the compressing effect of the muscular tissue surrounding the neoplasm which is brought into action by the current. The practical result seems to be that some tumors are completely resolved, others are greatly diminished in size, and others again suppurate. Sometimes the tumor, before serous or intramural, has been forced into the uterine cavity and finally extruded per vias naturales, as in a case of Dr. Mary Jacobi, in the August number of the Am. Journ. of Obst. Some others, it is admitted, are not much influenced. Séances are of ten or fifteen minutes' duration and are repeated from thirty up to several hundred.

To do justice to Apostoli's method, we must consider the nature and natural tendency of these myo-fibromata, and compare the rival methods of relief in use. The period of active growth of these tumors being commensurate with the menstrual life of the female, it is well known that the majority cease to enlarge after the menopause, sometimes decrease, and permit a lessening of pain and hemorrhage, so that for such it may be only an object to ameliorate the symptoms, in order to tide the patient over the dangerous period. Medication with ergot and ammonium chloride has accomplished a good deal for the relief of many cases, yet it is too uncertain to depend upon. The two surgical procedures now practised are hys-
terectomy, by laparatomy, and removal of the uterine appendages, so as to create an artificial menstruation.

Now, although the various operations performed by abdominal section come under the head of major operations, yet, under the influence of modern cleanliness and asepsis in the hands of expert specialists, the dangers of these grave operations have been greatly reduced. According to the statistics of hysterectomy for myomata, collated by Mr. Greig Smith, in 539 cases operated on by European surgeons between 1878 and 1885 the mortality reached 30 percent. But he says that the mortality in cases operated on in the last two or three years is not so great by far. "Keith's mortality, in most unpromising cases, is only 8 percent; Tait's mortality, in his last 50 cases, is very low," etc.; and the same author, although belonging to the school of Lawson Tait, remarks: "A further and more important question is, whether, with a death rate even of one in ten, the operation is ever justifiable." To say the least, in a large number of cases a surgical operation is not imperatively demanded, and it is in such cases that galvanism can be recommended. Even admitting that all the cases of myoma to which electricity is skilfully applied are not permanently cured, we yet find abundant proof of its value. And when we read the indications laid down for the operation of hysterectomy by so prudent and cautious a surgeon as Mr. Keith, we see that the range of cases for this procedure is very limited.

It is true that Mr. Tait and his followers condemn, in no measured terms, Apostoli's methods, and we find that a writer in the *Nouv. Arch. d'Obstet. et de Gyn.*, No. 1, for 1888, gives, as the result of experience in the clinique of Doléris, the following statement: That, after a trial of the methods of Apostoli, no disappearance or marked diminution of the tumors was noted; that the apparent decrease was illusory; that the pains were not specially relieved; while in some cases hemorrhages were stopped, it was only temporary, and the conclusion is drawn that the method is only a palliative one, on which little dependence can be placed.

Per contra, the evidence in favor of the success in the treatment of uterine fibroid by the galvanic current is presented by the high standing of Dr. Apostoli himself, and the accepted published reports of his numerous successes. Out of several hundred cases operated on, only two deaths, and these, as stated
by himself need not to have occurred under better management. He freely admits that in many cases the tumor has not been entirely resolved, but in most of these he claims that the pains, hemorrhage, and other distressing symptoms have been relieved. That where a radical cure could not be produced, a symptomat-ic cure was attained.

As corroborative testimony to the value of electro-therapeutics in this form of uterine disease, let me extract a few of the conclusions arrived at by Dr. F. H. Martin, of Chicago; one who has thoroughly studied this subject, has had ample opportunities for arriving at a correct judgment, and who has himself added some valuable improvements in the technique of the application of galvanism. At the last meeting of the American Medical Association he presented a paper "On the Value of Galvanism in the Treatment of Fibroid Tumors of the Uterus," and among a dozen or more rules laid down are the following:

"1. A means of generating a continuous current of electricity, of steady and uniform character, that can give an actual current strength, through a resistance of two hundred ohms, of five hundred milliamperes, is necessary to obtain all the benefits of this treatment.

"2. Fibroid tumors of small size can be completely absorbed by the proper application of strong currents of galvanism.

"3. Hemorrhages from fibroid tumors can be promptly cured by the local coagulating effect of the positive pole applied to the interior of the uterus. Severe neuralgias, so often accompanying these troubles, can invariably be relieved by three or four applications of this treatment.

"12. There is no excuse for any percentage of mortality in the proper application of this treatment. While Dr. Apostoli has had two deaths in two hundred and seventy-five cases, he candidly admits that they were due to avoidable accidents, and should not be considered as legitimate consequences of the operation.

"13. In experienced hands, and by the adoption of the present means of concentration, the most delicate and sensitive patient can receive, without experiencing severe discomfort, all the benefits to be derived from this valuable treatment."

To the above clear and convincing testimony of so eminent an American specialist, let us add that of London's great ovariotomist, Sir Spencer Wells, one who can justly claim "a
longer and more varied experience than most men in dealing with uterine diseases, especially those which are characterized by overgrowth.” In an address printed in the Med. Record of June 9th, 1888, he says that he became so interested in the reports that reached him of what Apostoli was teaching and doing, that in the autumn of 1886 he determined to see and judge for himself. He visited Paris, and, he continues, “Dr. Apostoli explained to me his views and demonstrated his mode of procedure. He threw open the records of his daily practice, and gave me the opportunity of verifying his diagnosis, and witnessing his treatment of the cases actually under his care. Besides this, he mustered for my inspection about sixty of the patients who had passed through his hands. I heard many of their histories in their own words, and could contrast for myself their actual condition of good health and activity with the symptoms reported in the early notes of their attendance, etc., etc. I spent many laborious hours in what, I may say, was a rigidly sceptical examination of the evidence before me, seeking for weak points in the system and the resolution of theoretical objections.” “The conviction was irresistible that, though the method might not have reached its point of perfection, the work, so far as it went, was good.”

Such then, gentlemen, is in part the evidence pro and con upon the therapeutic value of electric currents in uterine disease, and, to put it in a more condensed shape, I submit the following:

1st. That the higher knowledge of the laws and forms of electric force of modern times, as well as the superior methods of application in gynecological practice, puts the employment of electricity on a broader scientific basis than ever before, and gives promise of a still more extensive usefulness.

2d. That in these days when we are compelled to be guided by the practice of experts and specialists in regard to given procedures, we cannot admit that either faradic or galvanic currents will supplant completely and in every case the surgical methods in use, guarded by modern asepsis and cleanliness.

3d. That the practice of electro-therapeutics requires not only an extended special study beyond the usual curriculum of the schools, but that the outfit being quite expensive, and the time consumed so great that several assistants are required in a
moderately large practice, the result will be that only specialists in large cities will make a success.

4th. That as a remedial agent in diseases of women, it is not to be ridiculed, but is one of great value in certain cases and in expert hands, and is destined to accomplish for the relief of female suffering -what neither medicine nor surgery can in certain cases.

Lastly. It is evident that the professional minds of to-day are not agreed on the value of electro-therapeutics. The majority of gynecologists even ignore this method, while in the hands of a comparatively few it is a favorite means of cure. Altogether, we think that it has in the last two years gained much favor and made many converts to its ranks.

CASE OF TUBAL GESTATION.¹

BY
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MRS.——, white, aged 30, mother of two children, the youngest 11 years of age, came under my care in August, 1887. On examination, I found a retroverted uterus which presented some erosion of the cervix. There were, also, vesical symptoms complained of, which were attributed to the retroversion. Questioning elicited the fact that the patient had had several miscarriages, the last two years previous, all of which had been self-induced. Since the last abortion she had suffered from retroversion, and had been under the treatment of several physicians, the last being an eminent specialist in Baltimore. She was much benefited by treatment, although she returned to me occasionally for the introduction of a piece of medicated cotton, or a soft-rubber ring, which seemed to afford her great relief. Her uterine and vesical symptoms were greatly relieved, and early in July she left the city to spend a while in the country. Shortly after her return, in August, she manifested signs of pregnancy, and the nausea and vomiting became quite troublesome. Still she attended to her household duties.

On the 20th of September last she sent for me early in the

¹ Read before the Washington Obstetrical and Gynecological Society, December 7th, 1888.
morning, and on making my visit I learned that she had suffered great pain in the abdomen nearly all night, and had vomited repeatedly. The pain was most severe in the epigastric region. On palpating the abdomen, a general hyperesthetic condition was found to be present, not increased by pressure, and not greater in one location than in another. She was able to relieve her bladder without trouble. The pulse was 80 per minute, and full and strong. The temperature was normal. There was some nausea and attempts at vomiting.

On trying to get at the cause of the symptoms, I learned that on the preceding day she had washed some pieces of clothing and hung them on the line; she had then hurried off to the store to procure some things for the evening meal; and after supper had tried her hand at whipping her son, a boy of fourteen years. It was reasonable to suppose that these episodes were sufficient to account for her illness.

Morphia and bismuth were prescribed, but at my evening visit there seemed to be an increase of the pain. As she was constipated, I ordered a dose of Rochelle salt and calomel.

Next morning I learned that the medicine had been rejected by the stomach, and that the pain and attempts at vomiting had persisted during the night. Temperature and pulse as before, but not quite so much hyperesthesia of the abdomen. Ordered enema of soap and water, and when bowels moved, a suppository of morphia and belladonna was to be introduced every three hours. In the evening my patient was easier; the enema had secured a movement of the bowels. On the 22d, the patient seemed better generally, but as she complained of some pain in the hypogastrium, I made a digital examination to learn if any uterine trouble was responsible for the illness. The uterus was slightly sensitive to the touch, but was in its proper place, and was of the size that a pregnancy of nearly three months would cause it to be. I could detect nothing that pointed to an abnormal condition of the parts—no enlargement to either side being perceptible, although it is proper to state that the tenderness of the abdomen precluded a thorough examination.

Throughout the day of the 23d the patient was easy, and at my evening visit she was cheerful and almost free from pain. Her stomach tolerated some liquid nourishment; her pulse was good and temperature normal. On making slight pressure over the abdomen, the lady remarked that she was not so tender as she had been, and she tolerated the palpation without evincing any distress.

On visiting the house in the morning, I found the patient dead, and received the following particulars of her sudden demise:

At 12:15 A.M. (24th), the patient's sister, who was sleeping with her, was aroused by a call from Mrs. ———, who said she was dying. The husband of the sick woman was called, and after giving his wife some whiskey, went for the nearest doctor, as my
office was a long distance from the patient's home. It was 1:30
before the physician reached the house, and finding the woman
in a state of collapse, administered hypodermic injections of
whiskey, applied heat externally, and thus endeavored to bring
on reaction, but without avail, as the patient died at 2 o'clock,
half an hour after the doctor's arrival.

The necropsy was made by Dr. Lamb, whose notes are as fol-
lows:—Heart and lungs normal. Blood clots in abdomen. Liver
and spleen, stomach and intestines normal. Kidneys enlarged and
showed decidual; interstitial fibroid, size of walnut; some peritoneal adhesions. Corpus lu-
teum in left ovary. Right Fallopian tube distended into a sac con-
taining a three months' male embryo and placenta. Sac rup-
tured; rupture an inch and a half long.

In this case, extra-uterine pregnancy was not suspected until
I received the history of the symptoms immediately preceding
death. Nor can I see anything, after reviewing the case, which
would have justified the diagnosis of tubal gestation. There
was no attempt at abortion; no hemorrhage; no pain referable
to the uterus or tubes.

The diagnosis in cases of this class is conceded by all to be diffi-
cult, until symptoms of miscarriage or rupture take place. In
many cases women die from rupture of the tube when nothing
had occurred to direct attention to that organ, the coroner's ex-
amination giving the first intimation of the real state of the
case.

Concerning the treatment of my case, it may be said that
laparatomy might have saved this woman if the physician had
been on hand at the time the sac ruptured; at all events that is
the course I should have pursued; but these accidents do not
happen in that opportune manner. The physician who was
called in did not see my patient until she was in extremis, when
his efforts were properly directed to the bringing on of reaction.

In the treatment of cases recognized before rupture of the
sac has taken place, electricity has been used successfully by
some practitioners. While electricity may destroy the life of
the fetus, it does not relieve the woman of the dangers incident
to the retention of a putrescible substance within the abdominal
cavity. Knowledge of these risks has caused the sentiment of
the profession to crystallize around the operation of laparatomy
as the only correct and scientific treatment for cases of extra-
uterine pregnancy. Those who desire to further investigate
this subject will do well to consult the paper of Dr. A. W.
THE TREATMENT OF SUPPURATIVE DISEASE OF THE UTERINE APPENDAGES.

BY

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New York.

There has been recently quite a revolution and there is now marked difference of opinion concerning the justifiability of surgical interference in diseases of the uterine adnexa. It is true that very many women have been deprived of their ovaries or tubes without having been benefited; in fact, not a few feel worse than they did previously. Many a patient, if she presented herself to the same surgeon to-day, would not be subjected to the knife at all, or the operation in some cases would be done differently. As some have gone to extremes in operating, others again are going to extremes in the opposite direction, instead of keeping the medium and selecting the cases for operation with greater care.

Diseases of the uterine appendages may be roughly divided into three groups; 1st, those in which an operation is unjustifiable; 2d, where it is wise to watch the patient and keep her under constant treatment to see what benefit may be derived and then decide upon the course to be pursued; 3d, those cases where delay is not only unadvisable but dangerous.

It will be my endeavor here to plead for abdominal surgery, in a certain form of disease of the Fallopian tubes; namely, those cases where the tubes are distended with pus, excluding only exceptional cases to be noticed hereafter. The cause of my appeal will be obvious when the histories of the cases are read. Among my abdominal sections there have been four patients in whom I was compelled to operate after rupture of the pus-distended tube had occurred. One does not know how
sooii it may be his lot to meet such a casualty, where there is no time to consider and where immediate action must be taken if human life would be saved.

CASE I.—April 15th, 1887, Theodora K—, æt. 36 years, married sixteen years; had one child fourteen years ago, no miscarriages; labor was instrumental. Menstruation appeared at sixteen years. After confinement the patient had metritis and peritonitis. Her illness dates back to the time of her first confinement: complains of lumbar pains which radiate to the hypo-gastrium and down the thighs to the knees; much headache, cardiac palpitation, and dyspnea. During the past five years all the pains have increased and she has had a number of attacks of local peritonitis. Five years ago she was infected with syphilis by her husband, and is still suffering from the secondary effects. The increase of the pains corresponds to the time of the venereal infection. Bowels are regular; micturition is frequent; menstruation is regular every four weeks, lasting four days with great loss of blood. Severe pains begin three to four days prior to menstruation, gradually ceasing at the establishment of the flow. There is moderate leucorrhrea after menstruation.

Examination reveals a hard and indurated cervix, tender to touch; the uterus slightly enlarged and sensitive, mobile, normal position; both tubes and ovaries much enlarged and prolapsed; they and the immediately surrounding structures are very sensitive. A diagnosis of double salpingo-oophoritis syphilitica with endometritis was made and operation advised, provided improvement did not show itself from treatment in the course of a few months.

On May 15th, the patient underwent some violent physical exertion, and several hours later sent for me. She then complained of much more pain than usual in the hypogastric and iliac regions; it was evident that she had a fresh attack of pelvic peritonitis. On May 20th was summoned again to patient who was suffering intense pain, and found her then with a general peritonitis. On examination per vaginam, the tubes which could be distinctly mapped out previously, had lost their contour, there being instead a general fulness on either side of the uterus. There was excessive tenderness on examination. The case was apparently quite plain, the tubes which were distended with pus had ruptured, causing general septic peritonitis. The patient was immediately removed to the hospital. Unfortunately, I did not make up my mind to operate until the following afternoon, after consultation with another colleague who concurred both in the diagnosis and the course to be pursued. At 9 p.m. I opened the abdomen, a large quantity of pus flowing out through the incision. The diagnosis was correct, both Fallopian tubes had ruptured. The abdomen was washed out as thoroughly as the matted intestines would allow, and a Sims drainage-tube placed behind the uterus; during the first thirty-six hours, the patient
did fairly well, so that hopes were entertained for her recovery; after that, however, she began to sink, and died in collapse sixty hours after operation.

Case II. — Katie L—, æt. 29 years; single; never pregnant; seen in consultation on the evening of May 25th, 1887. Patient had scarlet fever when thirteen years old, and gave the history common to cases of catarrhal salpingitis. On April 21st she was suddenly seized with severe pain in the lower part of the abdomen, which gradually increased in intensity for some time; then again she got along seemingly well for several days. On May 23d she again became worse and developed high temperature, which the attending colleague informed me had ranged up to 104° F. in the axilla. Peritonitis was general and the emaciation of the patient very marked. The seat of the most intense pain was to the right of the uterus. Examination showed a fullness to the right of the womb, in which slight fluctuation was appreciable; the left side of the uterus seemed free. A more careful examination could not be made on account of the existing peritonitis and the pain which was caused by the examination. So much, however, was evident, that there was a peritonitis present which was of septic origin; the patient having had chills at variable intervals, and from the salpingitic history and the findings on examination, I considered it due to a ruptured right pyosalpinx.

The patient was removed to the hospital on the following day, where I made an abdominal section which corroborated the diagnosis. The abdominal cavity was cleansed of pus with large quantities of plain warm water. The adhesions were extensive and firm, and the hemorrhage from the points of separation profuse. The patient's condition was poor, so that much time could not be lost, and it was evident that a drainage tube could not be used with such profuse oozing going on. For these reasons I adopted tamponnement of the pelvis with iodoform gauze. The peritoneum was separately closed, as in nearly all of my cases of abdominal section, except at the lower angle where the drain is left to protrude when such is used. At the space where the tube or gauze drain is placed, a long loose suture is passed through the entire abdominal parietes including the peritoneum; this may be of any material at the choice of the operator, so long as it is rendered aseptic. At the Woman's Hospital, where the suture in the tube track was first introduced by Dr. James B. Hunter, it is of silver wire. Both silver and silk have been used by me and I can find no difference in the results, both answering their intended purpose equally well; this purpose being, to close the peritoneum and abdominal opening immediately after the removal of the tube, so that should any suppuration occur in the walls of the abdomen, its products will be prevented from entering the abdominal cavity, the peritoneal edges uniting within a few hours after being brought together.

The patient rallied remarkably well after the operation. The
iodoform gauze acted admirably as a drain and as a hemostatic. Thirty-six hours later it was removed, and a hard-rubber double current drainage-tube inserted in its place, the abdominal cavity being washed out through this. There was absolutely no odor and the first part of the water used in the irrigation was somewhat tinged with blood. The pulse some hours afterwards became very feeble. The foot of the bed was then raised, and the abdominal cavity irrigated with a one-per-cent chloride of sodium solution, about three ounces of the solution being left intra abdominam; after this the patient's condition improved.

On the beginning of the third day, the washings began to be odorous, although the temperature did not rise, and from this time on the irrigation was continued without intermission. The disagreeable odor increased, and the patient rapidly sank from the fourth day, dying on the fifth. The autopsy made about two hours after death showed diffuse nephritis to be the only pathological lesion of consequence. There was decided diminution of the peritonitis, the pelvis was perfectly clean, and there was no emission of any putrefactive smell, making the cause of the foul odor of the washings unexplainable to me.

I here take the opportunity to correct an error appearing in the Transactions of the New York Pathological Society, meeting of June 22d, 1887,1 regarding Cases I. and II., where it is stated: "In the first two cases operated upon by me, peritonitis developed and killed the patients." It should have been: "Septic peritonitis had developed prior to operation; these patients died."

Case III.—Rose E—-, at. 23 years; married eighteen months; one child six months ago; the labor was tedious and child still-born. Her illness dates from the time of her confinement, she complaining of constant intense pain in the right ovarian region, also hypogastric pains accompanied by an intense burning sensation; constant thirst, loss of appetite, nausea and occasional vomiting, constipation, and dysuria.

Menstruation is painful, irregular, too frequent, and lasts eight days with loss of a large amount of blood. There is constant and profuse leucorrhea.

Both tubes are felt prolapsed and enlarged; the ovary on the right side can be distinguished, and seems to be about the size of an English walnut. The uterus is normal in position and is very sensitive, there is present also a bilateral laceration of the cervix. Diagnosis—double pyo-salpingitis due to puerperal endometritis.

During the forenoon of June 12th, I was asked to see the patient as soon as possible. On arrival, I found her suffering with very severe abdominal pains, which had started in the right ovarian

1 See Medical Record, August 20th, 1887.
region, and had commenced suddenly in the early part of the morning during sexual intercourse; some vomiting was present, and also evidence of slight shock. There was marked tenderness over the entire abdomen, but no evidence of intense general peritonitis. On vaginal examination, I found that the previously enlarged tube on the right side had now disappeared. A large hypodermic of morphia and two ounces of brandy were given, and preparations made for immediate operation. Within two hours I opened the abdomen, when the diagnosis of rupture of the tube was proved to be correct. There was an opening two centimetres in length through which the pus had escaped; this tube and the one on the opposite side, which was also filled with pus, were loosened from the adhesions which were not firm and apparently of recent date and removed. Peritonitis had already begun, yet after thoroughly cleansing the abdominal cavity, I closed the wound without drainage. The patient made an uninterrupted recovery. The temperature, which had at the time when I first saw her reached 104.3° F. in the axilla, rose to 105° by evening, but then commenced to fall and did not again exceed 100°. From the third day it remained normal.

**Case IV. — Helen S.** Had one miscarriage several months ago, produced, she thinks, by heavy work. Since the miscarriage the patient has complained of inguinal pains, most severe on the left side, and severe backache. Menstruation is irregular, about once in five or six weeks, and lasts two to three days with a moderate loss of blood in clots. The dysmenorrhea is very severe, compelling her to go to bed several days prior to flow. In the cul-de-sac of Douglas and to the sides of the uterus large sausage-shaped masses are felt, giving to the examining finger the sensation of a small rubber ice-bag distended to its utmost capacity with water; they are considered to be the Fallopian tubes dilated to fully five times their normal size. The uterus is anterior: the cervix lacerated on the left side; the uterus and its annexæ are very tender to touch. Diagnosis: bilateral puerperal pyo-salpingitis. Immediate removal advised. July 27th, 1887, patient about three hours prior to my visit was attacked with severe abdominal pains, which had commenced quite suddenly, starting in the left ovarian region and radiating over the whole abdomen; she had a small pulse, and was covered with a cold, clammy sweat; temperature 103.4° F. An examination was very unsatisfactory on account of the intense pain it caused; the abdomen at this time already gave a tympanitic percussion sound. Diagnosis was not certain, yet knowing the previous condition and adding the status praecox, I considered myself justified in strongly suspecting the rupture of one or both Fallopian tubes and also in advising quick operative interference. Abdominal section about four hours later proved that the suspicion was well founded. The left tube, which was ruptured, and the opposite, which also accidentally ruptured during removal, were tied off. Adhesions were neither extensive nor firm. The abdomen was
thoroughly washed out, and the wound closed. No drainage, although the peritonitis had already made considerable progress. Recovery uninterrupted, the temperature at no time rising above 101° F. in the axilla.

In reviewing the cases just quoted, I can only regret that in No. I. I hesitated too long before operation. I felt almost sure of the existing condition from the beginning, consequently I should not have waited an hour, but operated in her own rooms without removal to the hospital; or, better yet, after having diagnosed that suppurative disease of the uterine adnæxæ existed, an operation should have been urged and done on May 15th, when it was evident that the tubal disease was active, without risking the chances of such a calamity as rupture of the pus-distended tubes. We know the significance of such a mishap, there not being a single case on record, to my knowledge, where a patient has recovered without operative interference. Twice within the past two years I have seen cases on the post-mortem table, dead of purulent peritonitis, which could, to the satisfaction of bystanders, be traced to a ruptured pyo-salpingx. Allow me to digress and quote two other examples which quite recently came under my observation and which impressed me strongly.

Case IV.—Catherine K—came to my clinic in March of this year, and without here going into the minutiae of the status found on examination, I will only say that a diagnosis of a double pyo-salpingitis of puerperal origin was made, she having been confined five months previously, and from that time complaining of hypogastric and inguinal pains, etc. I advised opening of the abdomen and removal of the appendages. Another physician, whom she consulted subsequently to my advice, ridiculed the idea of resorting to the knife, calling it a rash and absurd procedure, assuring the patient that she would get entirely well without an operation. On June 30th I was, however, requested to see this patient at her home, and found her suffering with general peritonitis, which I suspected to be the result of a ruptured tube, her severe illness having commenced suddenly with intense pain in the lower part of the abdomen and, as the husband said, "a fainting spell." An immediate operation was declined, and the patient died on July 2d. On opening the abdomen, the evidences of a general purulent peritonitis were at once seen. Thick, offensive pus welled up from the pelvis on lifting away the lymph and pus-covered highly inflamed intestines. The left Fallopian tube was greatly distended with pus, and slightly adherent; the ovary enlarged and containing small abscess-cavities. The right Fallopian tube was ruptured and
nearly collapsed, the adhesions extensive; ovary in the same condition as on the opposite side. Uterus slightly enlarged; other organs normal.

Case V.—The second, Elizabeth N., aged 23, mother of two children. On Oct. 19th I saw the patient the first time professionally. The history was that she recently had an abortion, and since that time suffered from pains in the inguinal regions and severe pressing pains in the rectum, especially on defecation. Examination showed both tubes distended, the left was prolapsed and pressed on the rectum. Very careful massage was used according to the method of Thure Brandt—my teacher in gynecological massage, on which the patient rapidly improved from the moment of its adoption; yet having had an extended experience with this class of cases, I felt very uneasy as to the continuance of my treatment, it being contrary to that which I had formerly pursued in such cases, and an experienced colleague was requested to see her with me in consultation on October 24th. He advised rest and awaiting of results, especially as she was feeling so well at the time. This plan was adopted. As to diagnosis, there was no difference of opinion. The following day, however, the patient, without any apparent cause, had a severe chill, which was followed by an axillary temperature of 104.4° F., and she rapidly developed a general peritonitis, from which she improved so that by October 29th she felt perfectly well, and the ice coil was left off. Despite her apparent excellent condition, my prognosis was guarded. My reason for being so very apprehensive as to the final result was, that, although the usual exit for the pus, if rupture occur, is by the way of the bladder or rectum, adhesions having been formed, my previous experience had shown me very clearly that a more unfortunate termination might ensue. On the evening of October 29th the patient experienced a sudden sharp pain in the left ovarian region, which radiated over the entire abdomen. When I saw her three-quarters of an hour later she was screaming with pain; temperature 103.4° F., pulse 120. Cyanotic countenance. Examination showed that the left tube had collapsed. Diagnosis of ruptured pyo-salpinx was made, patient given n° xI. of Magendie's solution, and everything made ready for immediate operation. A prominent colleague in this branch was asked to give his aid. By the time my assistant had got my instruments to the house of the patient her temperature was 105° in the axilla, which it was also on my colleague's arrival; pulse 134, feeble. In a very short time, however, the temperature began to fall rapidly, and soon reached 101.5°. The pulse was then 112, and fairly strong. Under these circumstances, the patient feeling very comfortable, it was but natural to think that possibly I had erred in my diagnosis, and my confrère's explanation that she had an acute attack of peritonitis, which was bettered by the large dose of morphine given her, seemed very plausible. We therefore concluded to defer our midnight operation and wait until morning. Alas! she soon sank so that by 4 a.m. the
pulse was 140 and very feeble; operation was out of question; stimulation did not improve the condition; the intended interference could not be thought of with the slightest chance of recovery from the shock of operation and narcosis. Death occurred thirty-six hours after the first appearance of the symptoms. The autopsy showed rupture of the left tube, and the tubal trouble was shown to arise from a small piece of adherent placenta.

A remark may not be out of place here with regard to cases occurring in private practice, especially among our better class of patients, namely: that in such cases there is altogether too much hesitancy on our part to interfere with the knife. It is very true that many cases of acute salpingitis recover without operative interference; but even if they do get over the acute attack, what is the condition of such patients in the future? Do not the majority remain invalids from pelvic disease?

It cannot be too strongly urged that we open the abdomen in every case of active pyo-salpingitis, from whatever cause it may arise, except under positive contra-indications, to be noticed below, or when the tubal trouble is complicated with another disease which in itself will destroy life in a short time, as advanced phthisis, carcinoma, etc. The question arises: Can we always make the diagnosis of pyo-salpingitis? This, of course, must be answered negatively; yet from personal observation, often corroborated by subsequent operation, I say that it can be done in most cases, and I think that a careful observer, experienced in this line of work, will not often fail. The conditions which we must differentiate are usually hydro- and hemato-salpinx; if, however, the tube or tubes are much distended, ovarian and parovarian cysts must also be considered. The history of the case is of the greatest importance in the differential diagnosis. There are many operators who consider it unjustifiable to operate for hydro- and hemato-salpinx, yet as it is unfortunately impossible for one to always make the positive diagnosis before operation, I still adhere to the opinion expressed in a paper read three or four years ago before the physicians of the German Poliklinik, where I held that even cases of hydro-salpinx should be operated upon if they give rise to serious morbid symptoms which cannot be alleviated by other treatment, because even the simplest and most inert fluid may become purulent after any inflammatory condition set up in the walls of the tube, or from the extension of an endometritis.

I desire to lay particular stress on the fact that, when we
have reason to suspect suppurating disease in activity, without
evidence of free communication between such diseased tube
and the uterus, the abdomen ought to be opened; even though
our diagnosis prove erroneous, not much harm is done to the
patient, except that she is deprived of her liberty for a period
of three to four weeks, to allow comparatively firm healing of
the abdominal wound; besides this there is only the restriction
of diet for from ten to fourteen days. The danger of an ex-
ploratory incision by a careful and experienced surgeon is
almost nothing. If our diagnosis is correct, as it should usually
be, what immense advantages are gained by the patient: in the
first place, it rids her of the pains which in the majority of
cases accompany this condition (pyo-salpingitis), although one
must not look for the cessation of the old pains immediately
after operation; sometimes a number of months or even one or
two years may pass before the full benefit is felt—changing
her from an invalid to a healthy being. Secondly, the danger
from rupture of the diseased tube is removed—an accident
almost necessarily fatal, unless with immediate operation, the
risks of which are far greater at that time than if done earlier.
In fact, if done prior to such accident, the danger is very slight.
Although a prominent German operator’s mortality from sal-
pingo-oophorectomies is very great (over twelve per cent), we
must bear in mind that his cases were extremely unfavorable,
having waited very long before determining on operation. It
is against this too long waiting that I would protest. Why let
a patient suffer when we have from history, examination, and
observation satisfied ourselves almost with positiveness that she
is suffering from a disease not amenable to ordinary treatment?
I call to mind a patient who was referred to me, and whom an
esteemed colleague examined for me, because another very
prominent gynecologist had advised the patient against opera-
tion. The poor woman was such a great sufferer that I declined
any further attempt at ordinary treatment; the gentleman who
had referred her to me, several other physicians, and myself hav-
ing tried it for some time without obtaining the slightest benefit.
I operated, and proved the justifiability and correctness of our
diagnosis—pyo-salpingitis dating from abortion. The patient
is now fully restored, a picture of health.

When we have opened the abdomen for a suspected pyo-sal-
pingitis, and find that such is not present, but that we have an
the Uterine Appendages.

hydro- or hemato-salpinx to deal with, shall we close the wound, leaving the tubes intra-abdominal in this condition in which we find them, because some say that it is wrong to do a laparotomy for such disease? I say no most emphatically, provided I satisfied myself that the tube in question is at some point firmly occluded as the result of adhesive inflammation. No matter what the contained fluid may be, the tube ought to be unhesitatingly removed, for it is certainly of no further use to the patient, and only jeopardizes her health, if not her life. By what right should we allow such appendages to remain? On the ground and with the belief that the blood or serum, whenever the tube may contain, will be absorbed, which may be possible; but does that restore the patency of the occluded tube? Or, if we aspirate the fluid from the tube, may it not refill? If we leave it alone, we run the risks previously mentioned in such conditions; these chances must all be taken. No one will venture to say that such an organ, once firmly occluded from the results of adhesive inflammation, can ever again become permeable; compare the old pleuritic adhesions which are found daily in autopsies—can such pleuræ, after having become firmly adherent to the chest-walls, detach themselves? The condition of an occluded Fallopian tube is pathologically similar.

The question will now naturally be asked, How may we recognize whether a tube is so firmly occluded as to require removal, and when can we with probable safety for the patient leave it undisturbed? The answer is quite simple; the appendage is taken in the left hand, and with the thumb and forefinger of the right hand it is gently manipulated or stroked towards the uterine opening of the tube, care being taken not to handle too roughly lest it rupture; whether the contained fluid be diminished or not will decide the permeability of the tube, and also the further procedure.

I have on my record but two instances in which I regret that I interfered, both occurring in the beginning of my work of abdominal surgery. The first was a case of catarrhal salpingitis with frequent occurrences of local peritonitis. The adhesions in this case were very extensive, and had it not been for the kind assistance of two experienced abdominal surgeons, who were also good enough to examine the patient previously and then advised operation, I should doubtless have abstained from
completing the operation. This patient died of general peritonitis on the sixth day. In the second case, the same condition called for operation, with equally extensive and dense adhesions, the patient dying on the third day from septic peritonitis. With my present views, I think it very doubtful that I would be induced to remove the appendages at all in such cases, especially if the patients were near the menopause.

From Case No. II. several important things may be learned, and experience corroborated. First, I take it for granted that she had an ordinary catarrhal salpingitis which about the time of her severe illness became changed into pyo-salpingitis. She having been ill for such a long period previous to her attack of general peritonitis, she was, of course, not in a good condition to stand an operation of the nature required, yet there certainly was no other chance to save life, as the subsequent findings proved. The patient was in this condition removed to the hospital, a distance of four miles from her residence. Admitting that home care for the poor and those of very limited means can in no way be compared to hospital nursing, I should not again submit a patient suffering from general peritonitis to such exertion, but take my chances of watching such case at home. The patient's condition being very low it was of paramount importance to operate as quickly, and with as little loss of blood as possible. The hemorrhage being very profuse from numerous points and the tissues fairly rotten, if such term can be applied to tissue upon which it is impossible to apply a ligature or an hemostatic forceps successfully, iodoform gauze packing was most successfully used, restraining the hemorrhage, and acting nicely as a drain. The pelvic cavity was perfectly inodorous and dry on its removal. Since then I have several times had occasion to observe the value of gauze packing in profuse intra-abdominal hemorrhage, in which any other allowable means known to me would have been a positive failure. The improvement of the pulse when the abdominal cavity was irrigated with hot saline solution, with the absorption of the fluid left in the abdomen, is another point worthy of notice. We come now to that part of the after-treatment which is to me of the greatest interest and value, for upon this depended, I think, the failure in this particular case. The peritoneal cavity, after removal of the gauze tampon, was dry and emitted no odor; then properly the “drain track suture” should have been drawn up and the rest
of the wound closed, and the second introduction of a drain should not have been practised. I feel almost confident that my patient would have recovered from the operation had this course been pursued. Experience gained in similar instances shows my view to be correct; in fact, the less we use drainage the better, excepting only very unusual cases. In Cases III. and IV., there was no general peritonitis present, the operation having been done before it had time to develop, as it should be always where a case can be seen early enough; yet free pus was in the abdominal cavity. Still, had these last two cases been in the hospital, where the opportunity of good nursing could have been had, I should, after the pus had been thoroughly cleaned out, and the wound was closed, certainly have drained for fear of septic peritonitis; because it is customary to do so generally, and operators commend it as necessary, especially in England and in this country. However, with the surroundings of these two cases, I decided that it would be disastrous to leave in a drainage tube, and for this reason the course adopted was decided upon. The subsequent progress of the patients showed its correctness. I certainly could not have done better with a drain, but very probably much worse. In urging early operative interference in pyo-salpingitis, I would not be understood as advocating immediate removal of the appendages when the uterine extremity of the tube is patent and the pus can be squeezed out of the tube into the uterus, making its exit into the vagina; this must, however, be amply proven to the attendant, and the tube must be perceptibly smaller after such procedure. In such cases it is not only justifiable, but commendable to use other modes of treatment, as complete rest with careful tamponnement and proper massage. Candidly, I do not believe in the frequent occurrence of such cases, although one of our New York abdominal surgeons has said that he frequently sees them. Thure Brandt, of Stockholm, whose method I had the pleasure to study during the past summer, tells me that he considers it the rule to cure such cases by his method of massage. Unquestionably they do occasionally occur. In my experience, however, of a very large number of cases, I have but very rarely been able to demonstrate such a condition to my own satisfaction.

Another condition of pyo-salpinx in which one should wait is, when the distended tube causes but very slight or no symp-
toms, provided the distention be not great; that is, when the tube does not appear larger to the palpating finger than the average thumb. It is possible, as has been found in a number of times at autopsies, that pus, here as in other parts of the body, may become inspissated, undergo cheesy degeneration, and remain entirely inert. Particular stress, however, should be laid on the absence of these two conditions, and then we will find that such cases will rarely come under the observation of the physician; for why should a patient consult a physician when she complains of nothing? Surely, it is no pleasure for women, as a rule, to be examined per vaginam, and unless she does complain of symptoms referable to the generative tract, a physician will but rarely propose a vaginal examination.

I would not advocate aspirating distended tubes through the vagina, although it has been done successfully, unless I felt sure that adhesions existed sufficiently dense to prevent the escape of pus into the peritoneum after withdrawal of the needle.

When a tube is greatly distended, strange to say, it occasionally gives rise to no symptoms except fever and emaciation of the patient, and such cases, when they do occur, in my experience, only take place after the puerperium (a puerperal pyo-salpingitis).

Only a few weeks ago, a case of such description known to me died of the disease, the confinement having occurred several months ago. Such tubes containing a very large quantity of pus ought always to be unhesitatingly operated upon. It is also in these cases that a diagnosis cannot always be made until the operation is undertaken, because the tubes are sometimes so distended as to give rise to the impression that the tumor felt is of ovarian origin, or if adhesions are perceptibly felt to exist, one may think it an ordinary pelvic abscess. To guide us towards a correct diagnosis, the history of the case must always be taken in consideration, in connection with the results obtained by physical examination.

I hope that it will not be understood that I urge the removal of tubes and ovaries except in cases of real necessity. No one can be more against the indiserninate removal of the appendages than I, who feel inclined to try every safe means in my power to prevent what is in one sense a degradation, from the results of which a number of women are now in the wards of insane asylums. Massage, if employed with the care pra-
tised by Brandt, is an excellent means to diagnose the pat-
ency of the tubes before operation, and should a communica-
tion exist between the tube and uterus, is an excellent adjunct,
and should not be underestimated; it is, however, a very dan-
ggerous remedy in the hands of an inexperienced manipulator
for the form of disease now under consideration. Whether or
not it is capable of producing a cure, future investigation must
deceive.

FATAL APoplexy BEFORE PUBERTY.

BY

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Washington, D. C.

Apoplexy is so rare in a subject of the age of thirteen years,
that the following case seems worthy of report.

According to Althaus: 'Though not uncommon in infancy,
Apoplexy is, essentially, a disease of old age,' since there ex-
ists a remarkable decline in the frequency of its occurrence after
the first year of life—the fall persisting until fifteen; and
thereafter a rise ensuing, and progressing to the senile acme—
seventy-four years.

Dr. Liddell's tables substantially agree with his, showing
that in New York the same condition of affairs in this respect
is maintained as in England.

There is a wide difference of conclusion, however, between
the two as to the liability of the sexes—female cases prepon-
derating in Great Britain, and male ones in America.

But the cases of Dr. Althaus are very many more than those
of Dr. Liddell, and extend over more than eight times the pe-
riod, viz., over twenty-five years; so that the former considers
his deductions "irresistible," as to England and Wales at least.

On the continent of Europe, as in America, its greater preva-
lence in men than in women is well marked and generally ad-
mitted.

1 Read at Washington Obst. and Gynec. Soc., November 16th, 1888.
2 Accounted for by the exceptional drunkenness of English women.
The definition of apoplexy given by the eminent English writer already quoted, reads as follows:

"A condition in which a person has, more or less suddenly, lost his consciousness, sensibility, and motility, while respiration and the heart's action continue."

He considers it by no means a disease of itself; but that "modern investigations have shown that it is merely a symptom of disease; and that it may be produced by the following pathological conditions," viz., by

1st. *Hemorrhage* into the brain.
2d. *Hemorrhage* into the membranes of the brain.
3d. *Hyperemia* of the brain, or determination of blood to the head.
5th. *Acute alcoholic intoxication*.
6th. *Intoxication* by opium and other narcotic poisons.
7th. *Sunstroke*.

The case to be reported to-night is that of a boy thirteen years three months old; for nearly two years past an inmate of the Washington City Orphan Asylum; a brunette of slight and rather delicate figure, amiable disposition, tractable, and a favorite with teachers and superiors.

His mother died of "apoplexy," nearly two years ago. His father is employed in one of our principal hotels at this time.

On the 15th of October last, his teacher, having been struck by his listlessness and general unlikeness to his normal self, called the attention of the acting superintendent to him.

He was promptly removed to the infirmary of the institution, and placed under the care of an experienced nurse, that his diet and habits might be duly regulated.

At this time he complained of headache (more or less frontal), was more irritable than usual, capricious in appetite, and once or twice vomited his food. The approach of typhoid fever was feared, and he was watched and tended with exceptional care.

Once or twice during my visits to the institution I was called upon to examine him, but found his tongue fairly clean (though tremulous), his pulse and temperature almost or quite normal. Especial attention was paid to the regulation of his bowel discharges.

On Monday, 22d, he seemed entirely well until about noon, when a fit of irritability seized him; he complained of his food, demanded ham and cabbage, and was only pacified by the promise—not, of course, to be kept—that he should have it next day. I paid a visit to the house that afternoon and examined him, was annoyed to find his temperature 101.5°, and ordered full doses of quinia and potassium bromide.
Next day he seemed entirely himself until four o'clock, when he became violent and soon fell into a stupor, in which condition I found him an hour or two later.

At this time he was unconscious, motionless, his pupils neither contracted nor dilated, nor deviating; as to axis, the one from the other. Pulse full and compressible, about 68 to the minute. No unusual heat of the head exteriorly. Penis carefully examined. No phimosis nor adhesions. No priapism. An enema of castor oil, turpentine, etc., was ordered. Mustard applied to nape of neck, and (internally) full doses of brom. sod. and potass. at intervals of three hours. To these were added small doses of deodorized tinct. of opium, as the nurse said that violent jactitation alternated with his present motionless condition.

Saw him next morning with Dr. Lachlan Tyler, my associate in the institution. We found him less unconscious perhaps, judging by ocular expression, but still unable to speak or even protrude the tongue when told to do so. Pulse 76, temp. 100.8°. Pupils slightly contracted, probably from opium. Had taken his nourishment at regular intervals from a tablespoon, but with difficulty.

His neck was now painted, posteriorly, with cantharidal collodion, ergot substituted for opium in the bromide mixture, and sixteen grains quinine given during the space of two hours. A slight exacerbation occurred as to all the bad symptoms, in the evening, in spite of the quinia, and next morning Dr. C. E. Hagner, Consultant to the Medical Staff, was called into the case. The doctor, with Dr. Houstoun, of Savannah, Ga., who was especially asked to attend, met me at noon, and we found the patient apparently in much improved condition. Pulse 76, full but compressible; respiration good; eyes tolerably intelligent-looking; pupils contractile; tongue badly furred (he could now protrude it); no lateral deviation noted. When asked if he was in pain, seemed to indicate that he was not, though the effort to say "No" was unsuccessful. Penis in a state of priapism; urine passing involuntarily; bowels confined; sensation retained in lower extremities; no paralysis.

Iodide of potass. substituted for bromides (unless priapism persisted or jactitation set in; ergot continued; purgative dose (of calomel, sod. bicarb., and ipecac) ordered; hot mustard baths for feet. Purgation was free, with the aid of an enema; but from this time until Saturday morning, 27th, he gradually grew worse, temperature and pulse rising, and respiration becoming shallower and more frequent until death, at 10 A.M. Twenty-four hours before death, slight internal strabismus of right eye was apparent.

An examination, especially of the brain, was made by Dr. Lachlan Tyler at 3 p.m., October 27th, Drs. Hagner, Houstoun, and myself being present.

The brain and meninges were found to be in a state of intense
congestion, the gray matter infiltrated and darkened, here and there dots of extravasation, and, in the subarachnoid space (especially posteriorly), an accumulation of sero-sanguinous fluid, with clouding (almost to opacity) of the membrane itself, as the base of the brain was approached. The medulla oblongata was notably the seat of punctate extravasations.

The thorax was then opened, but nothing abnormal detected except hypostatic infiltration of the dependent portions of the lungs.

The liver appeared to be the seat of no structural change.

The glands of Peyer in the neighborhood of the ileocecal valve were reddened, elevated, and surrounded by arborescent congestion of the adjacent mucous membrane.

Spleen and mesenteric glands were not examined, but would have hardly thrown any light upon the case, judging from the slight advancement of changes in the patches of Peyer.

It seems that this child, before entrance into this asylum, had had scarlet fever very severely, followed by otorrhea, for which he had been treated. He had also been attended for chorea. But, after admission, what treatment he had received from us had been for trivial disorders, easily relieved, no record of which had been kept.

The question naturally occurs whether this may have been a case of Foulhroyante typhoid fever. The state of the agminated glands near the cecum was just what would be expected at the third or fourth day of typhoid. The condition of the meninges and brain was certainly very unusual, but we must recollect that even violent fulminant cases are rarely fatal on the third or fourth day, so that post-mortem examinations are rare at that period. It is possible that hyperemic states approximating this one may sometimes exist in cases passing on to a normal course. Dr. Bartholow states, as to the post-mortem appearances of this disease, that "rarely the lesions of acute meningitis are superadded to those of typhoid," and Dr. Flint says that "more or less cerebral congestion is not uncommon, together with serous effusion in the arachnoid cavity, lateral ventricles, and subarachnoid space."

Since the death of this boy, I have corresponded with a physician of long and extensive experience in a region in which typhoid fever, pure and simple, is about as common as ague and fever in our tide-water districts.

He repeats what he told me years ago, viz., that "cases of

1 By reason of urgent demands upon the time of us all.
typhoid fever do occur beyond a doubt (or, at least, apparently so), in which the development is sudden, in which the pro-
dromes are ignored, and the patient not conscious of any trou-
ble further than a slight malaise, until the fever bursts upon
him with its full violence.” "In such we find high tempera-
ture, frequent pulse, with intense headache and troublesome
diarrhea.” But he adds: “Apoplectiform features in typhoid
at the outset I have never seen, and doubt if they ever exist.”

I hope that this question may seem to you to be worthy of
discussion.

1345 F Street.

TRANSACTIONS OF THE OBSTETRICAL
SOCIETY OF NEW YORK.

Stated Meeting, December 4th, 1888.
The President, Dr. H. T. Hanks, in the Chair.

SPASMODIC CONTRACTURE OF THE ABDOMINAL MUSCLES SIMULATING
INTERNAL TUMOR.

Dr. H. J. Boldt presented the patient, and said:—There exists
in this patient a peculiar spasmodic condition of the abdominal
muscles when they are touched during bi-manual examination,
which arose subsequently to removal of the tubes and ovaries. I
have twice previously seen a similar condition, but less marked, in
patients on whom abdominal section had been performed, so that it
strikes me as possible, or rather as probable, that there is a con-
nection between this spasmodic condition of the muscles and the
removal of the appendages.

This patient, 26 years old, was sent me on account of hemor-
rhages which could not be controlled by the usual means. Thorough curetting, rest in bed, sulphuric acid, ergot, hydrastis
canadensis, tampons, etc., had been used without the slightest
benefit, and the doctor informed me that she had lost flesh and
strength daily. I made up my mind to lose no further time, espe-
cially as I was going to Europe in a few days and might lose con-
trol of the case. The removal of the adnexa, which were appar-
ently not at all diseased, accomplished the desired object—the
hemorrhages stopped entirely within a few days, and she has not
lost a drop of blood since.

She called on me a few weeks ago, complaining of constant pain
in the lower part of the abdomen, most marked in the right in-
guinal region, a distressing feeling about the epigastrium, nausea
and vomiting. This condition had existed since the time of rising from bed after the operation. On examination I found the most intense pain over the entire abdomen, and at the part where she complained of the most violent pain was what I took to be, from mere external examination, an exudation as large as a newly born child's head, so excessively tender as to cause the patient to scream with pain when it was touched. On examination per vaginam, which was also painful, I found absolutely no trace of anything save the hyperesthesia. I could not on first examination make any diagnosis, except that there was no exudation.

To determine its cause, kind, etc., was out of the question. Light massage was at once commenced. On the following day, with great care, I was enabled to make a correct diagnosis, satisfying myself that the tumor, which felt like a large exudation, was the result of spasmodic contraction of the external fibres of the rectus, fibres of the internal oblique, and, in fact, of all the abdominal muscles in this region. The peculiarity of the contraction is that it makes such a circumscribed mass. That the pain is not due to muscular rheumatism is evident, inasmuch as it does not subside in the slightest after the administration of the usual anti-rheumatic remedies in large doses. It is one of the reflex neuroses following salpingo-oophorectomy which has heretofore not been noticed, and I think is perhaps the rarest form of nervous reflex condition after that operation.

The patient is now improving slowly but surely on daily stomach washings and massage. She had already improved to such an extent that twice during the past week the full treatment could be given without any contraction taking place at all. I might add that the curetting had been done by myself, and this was followed by the usual intra-uterine applications, which treatment was also subsequently continued by her physician.

That the muscular contraction is not due to the scar left by the operation can readily be appreciated, for the scar is scarcely an inch in length, and has but little cicatrical tissue.

**FIXATION OF THE UTERUS BY ADHESIONS; BRANDT'S METHOD OF TREATMENT.**

Dr. Boldt presented a second patient, with the following history: She has a diffuse chronic para- and perimetritis due to a dilatation of the cervix and curetting of the uterus for stenosis and endometritis. In consequence of the peri- and parametritis she suffers from metrorrhagia, besides a variety of pains and aches so frequently associated with this pathological lesion. You will find the uterus firmly imbedded and not mobile to the slightest degree. The patient will be so good as to come before you again after I have treated her a month; the reason for presenting her to you for examination to-night is, that you may compare her present condition with what it will be after treatment. I also show you a
diagram of her condition, which you can compare with the results of your personal examination of the patient. I desire to show to the satisfaction of the profession, and especially of my colleagues in the gynecological field of labor, that massage in a certain proportion of well-selected cases is the treatment *par excellence* for these cases—that is, if it is practised after the method of Thure Brandt.

Here I may say, also, that gentlemen must not be misled by the German translation, by Dr. A. Resch, of Thure Brandt's work. The translation has a large number of errors, so that it had better be called a modification or remodelling. One who has been with Brandt, and made notes carefully, would soon comprehend the correctness of this assertion. (The speaker then proceeded to demonstrate Brandt's method.)

**The President.**—Has your first patient been examined while anesthetized?

**Dr. Boldt.**—She has not.

**Dr. J. G. Perry** (speaking of the second case presented by Dr. Boldt) said: I have employed that form of treatment (massage and gymnastics) ever since I began practice. I do not know that my method is the same in all the minutiae, but I have employed massage, have not abandoned it, and can testify to good results. Also as to movements of the body, I have the patient lie flat on her back, with the legs extended, and direct her to raise the body on the pelvis, thus giving exercise to the abdominal muscles. I do not doubt Dr. Boldt will be able to break up the uterine adhesions in this case by such treatment within a month.

**Dr. J. R. Nilsen.**—I speak so often of this method of treatment, and have done so for two or three years, that my class probably regard it as a hobby with me. I employ movements of the body and massage not alone for exudations, but also when the pelvic organs are distorted, and have seen very good results. As Dr.
Boldt states, the patient is given a little pain, but not much. The practice is somewhat analogous to that employed some years ago by pressure. When I was interne at the Mt. Sinai Hospital, we had a number of cases in which we distended the vagina enormously with oakum, and placed a pad on the abdomen of the patient and struck it lightly. Dr. Noeggerath practised this method with, I remember, considerable benefit in a few cases.

Dr. P. F. Munde presented the specimen and gave the history of a case of

ADENO-MYXO-SARCOMA OF THE CERVIX.¹

LARGE FIBROID OF THE OVARY.

Dr. Munde also presented the specimen, and said: I have another specimen, not quite as rare as the former, for there are plenty of the kind on record; still, out of many hundred cases of ovarian tumors and ovarian malformations of one kind and another, I have seen but two which corresponded to this.

Several months ago the patient, a young lady from New Orleans, was sent to me, having an abdominal tumor, regarding which her physician was in doubt. The tumor was as large as a coconut, very freely movable, very hard, very painful on manipulation. According to her physician’s statement, it had grown about a year and a half. When he first noticed it, it was about the size of a

¹ See original paper in February number.
Obstetrical Society of New York.

283

small egg. Within six weeks it became the size of a large egg. When I saw her its size was that of a large cocoanut. I thought it was either a pediculated, subperitoneal fibroid of the uterus, or possibly that much more rare disease, a fibroma of the ovary.

The patient was aged 26, had menorrhagia, and was quite anemic. I curetted the uterus for menorrhagia, with the ordinary favorable result; then kept her under observation for a time, and made some applications of galvanism to the tumor, one electrode being in the uterus and the other over the abdomen for the relief of pain. Other benefit was hardly anticipated; the tumor continued to grow, and I proceeded to do laparotomy a week ago today. The growth proved to be a fibroid of the right ovary, weighing 773 grams. It had quite extensive attachments to the omentum. At one spot on the tumor the ovary, and the portion from which it sprang, can be seen. The patient's progress toward recovery has so far been uninterrupted. Spencer Wells has seen but two fibroids of the ovaries in five hundred ovariotomies.

Dr. H. C. Coe.—I would ask whether this fibroid was entirely separate or connected with the uterus?

Dr. Munde.—It was entirely separate. I may mention that the lady being engaged to be married, when I examined the other ovary a cyst of the size of a walnut burst, and not wishing to take from her the possibility of motherhood, I did not remove the organ, but sutured the cyst walls with catgut, restoring the organ as nearly as possible to its normal condition. The pedicle of this tumor is not larger than my thumb. The uterus was not enlarged.

Dr. Coe.—This is, I think, a rare specimen. I have been much interested in such tumors, and believe there are only thirty or forty on record. In all that I have seen, half a dozen, I believe, the ovary had been uniformly enlarged. The tumors are supposed to originate from a chronic hypertrophy of the ovary. But this one seems to have grown from but one part of the ovary, and is firmly continuous with the cortex of that organ. Fibro-cysts of the ovary—and this is evidently a commencing fibro-cyst—are even more rare than fibroids. The only fibro-cyst which I have seen was one that Dr. Thomas once removed at the Woman's Hospital, the cavity containing at least a quart of fluid.

Dr. Munde.—Gusserow reports a case of Olshansen in which the ovary held a similar relation to the tumor as this one, the tumor springing apparently from one portion of the ovary.

Dr. Malcolm McLean.—Dr. Sims presented a specimen at this Society about two years ago; the whole ovary was obliterated in the tumor.

Dr. A. M. Jacobus.—I have had a case of fibro cystic disease of the ovary. The disease seemed to generally involve the ovary. I had made a diagnosis of large fibro-cyst of the uterus. The patient had been married a number of years; was never pregnant. She suffered from menorrhagia. The uterus was retroflexed, and measured nearly four inches in depth. The mass filled the pelvic cavity, was very hard, but was slightly elastic at one point posteriorly and to the right. Dr. Wylie operated upon the patient,
and we were both surprised to find fibro-cystic disease of the ovary instead of the uterus.

Dr. H. J. Boldt.—Some time about May or June last I saw a patient who subsequently passed from under my observation and was operated upon by Dr. Lange. I understood the gentleman who sent the patient to me to state that it proved to be a similar case to Dr. Mundé’s. I believe the fibro-cyst of the ovary weighed four or five pounds.

Dr. Perry.—I would ask Dr. Mundé whether in his first case menstruation was interfered with?

Dr. Mundé.—The patient’s friends stated that they knew nothing about menstruation in her case for at least three years. She had a discharge all the while, and there was really no blood left for menstruation, she was so exsanguinated.

The President.—A case somewhat similar to Dr. Mundé’s first, and from the same State, came under my observation about three years ago. The patient complained much, and was at the climacteric period when women are likely to have nervous troubles. There was a tumor on the cervix uteri the size of an English walnut, which had a very suspicious look. When pulled down by the tenaculum, some of the grumous, gelatinoid material would ooze out. It was removed by the small écraseur wire, and its base thoroughly cauterized. It involved about one-half the cervix. The woman has remained quite well since the operation. Dr. Heitzmann examined the specimen, and pronounced it the same as in Dr. Mundé’s case. I looked up the literature at that time, and found that these growths, unless removed soon, degenerate, and become malignant, most frequently sarcomatous.

Dr. R. G. Talbot.—The first laparotomy which I saw at the Woman’s Hospital was in a case very similar to Dr. Mundé’s second. The tumor was oblong, a little larger than the one presented by Dr. Mundé. The fibrous mass, springing from the ovary, weighed three or four pounds, in addition to the weight of the fluid contents—about a quart.

Dr. J. R. Nilsen read a paper entitled,

A UNIQUE CASE OF ERROR OF DEVELOPMENT, WITH SOME LIGHT UPON THE PATHOLOGY OF OVARIAN DISEASES.

The patient whose peculiar condition forms the subject of this paper is 32 years of age, married nine years, one pregnancy, one child 10 months old. Child nursing until November 3d, 1888, when she left home for New York. She is of medium height, fairly well nourished, but bears in her countenance evident marks of long suffering. She is the youngest of five children. Her mother died four years after giving her birth, from peritonitis after a miscarriage at the third month. Had some lung trouble when very young, mumps later on and two attacks of diphtheria in 1878 (ten years ago). She began menstruating at 14, and was regular until she became pregnant. She remembers well her first menstruation; was much surprised, and then frightened when, an hour or two after the first appearance of blood, she was “seized with severe pain in the left side of the abdomen.”

The flow has since then generally lasted three days, not very
She presented it free, and always accompanied with this same pain. Generally the flow has preceded the pain. Slight disturbances after the menses, such as catching a little cold, certain motions, slight exertions, etc., would bring on severe pain. During the severest attacks the skin over the region where it was felt became so tender that she could not bear the touch of the bed-clothes.

With the years the attacks of pain became more and more frequent, more severe, and lasted longer, until she often would go about in agony for a whole week or two at the time, and at last the pain never left her entirely.

She was often told that marriage would bring relief. She did marry nine years ago, although not influenced by these prospects. The approach of her husband became, after the first intercourse, an act which she dreaded; it was never without great suffering. The prospect of entire cure by child-bearing was held out to her, but she did not become pregnant until nineteen months ago. She then missed one period, but gave no special heed to it. She grew "terribly weak and miserable" without nausea or vomiting. When the second period also passed without any show, she consulted her physician, who without examination declared her pregnant. During these two months her pains had gradually become less severe and from this time until the confinement she had no pain whatever, and felt much better generally.

She carried the fetus to full term. The water began coming away twenty-four hours before labor pains set in. Was in labor eight hours. From the moment the first bearing-down sensation came on, until the child was born there was not the slightest remission of "a terrible pain tearing down the left side from below the ribs." No pain in the back or elsewhere. Delivery effected without much trouble. The child's position was normal.

She remembers clearly that after the placenta had been removed the attending physician appeared a little nervous and said a little later: "It's the queerest thing I ever saw! I can't find the womb." The attending nurse said she saw hardly any lochia after the labor. The child was female, and weighed five and a half pounds, healthy and nursed vigorously; presented no abnormalities, except a protrusion of the navel sufficient to be treated with a compress for three months, when it disappeared. The mother had superabundance of milk (her breasts are now painfully distended).

She got up on the twelfth day. No trace of any discharge after the third or fourth day.

Three weeks later the old pain began, as bad as before and in the same region.

About three months later coition was attempted, but her suffering utterly forbade a repetition after that.

Three years before marriage one of her attacks, the worst she ever had, kept her in bed for a week. The doctor called it inflammation of the bowels. She does not remember the abdomen
being swollen. She never had any trouble with constipation and never nausea or vomiting.

She was under a physician's care at home since her painful menstruations first began. Recently consulted a specialist in one of the large cities in Connecticut, and was by him advised to submit to an operation for lacerated cervix. Her own physician at home had not considered it necessary.

She was sent to me to have this operation done, and came on to New York, November 3d, 1888. I examined her, but could barely touch her without giving her great pain. I determined at once that the bit of a scratch in the cervix required no operation, nor did I for an instant consider it in any way responsible for her sufferings. The cervix was very small, but may have shrunk much since her examination by the other doctors.

I could not make a definite diagnosis, since abdominal palpation could not be tolerated, nor could I make but the slightest pressure within the vagina, and yet to my senses there were no signs of acute inflammation. I did not like to put her under ether under the circumstances. From all the existing evidences, however, I came to the conclusion that there was nothing but laparotomy to be resorted to, and I so stated to her and her husband. They left it entirely to me.

I prepared her for a few days with laxatives, charcoal and bismuth, and operated November 12th, 1888, assisted by Dr. Burwell, and in the presence of a number of others.

Having reached the abdominal cavity through a small incision, I inserted two fingers, but had to search for my usual starting point, the fundus uteri; couldn't find it at first, nor was there any trace of the sexual organs belonging in the left half of the pelvis, only a ridge lying deeply, the broad ligament. As I followed this from its starting point below the left iliac fossa, it terminated abruptly at a small hard body lying far over toward the right. I took it to be the ovary at first, but it proved to be the uterus, and beyond this, close up against the right pelvic wall, was a small nodular and very hard ovary and a tube somewhat enlarged and held toward the front by a few very soft adhesions. I concluded that this was the only ovary and tube she had, enlarged the abdominal opening, with retractor pulled it strongly to the right, and removed the small circular flat ovary, the enlarged, deeply congested tube with the parovarium and a plexus of blue distended veins. Before tying the ligatures I lifted out the uterus and showed it to those present. It was almost exactly the size of my thumb at the should-be fundus, but the lowest visible part of it was not half an inch in diameter and continuous with what there was of the broad ligament. Hoping to find some trace of the left tube and ovary, I slit the ridge close to the uterus, but no trace was discovered and I closed it again with catgut, swept the finger well outward and backward, and might very rea-
reasonably have stopped there, but I didn't. I introduced my hand upward and outward and there my search was rewarded by finding what felt like a small parcel well wrapped around with bands and strings, and with which the descending colon was incorporated.

The abdominal opening was pulled forcibly outward and upward and with the colon and mass in full view, I had as entertaining a piece of dissection as ever fell to my lot. Tearing was out of question; the bands cut like rubber and leather. I used sharp-pointed scissors. It took some time to release the colon. Its mesentery was cut through, requiring some plastic work to bring peritoneal edges together and stop bleeding. Out of the remaining mass, containing the ovary and an appendix about one and a quarter inches long and hanging free, I formed a pedicle, trans-fixed it and removed all I could, leaving the stump against the abdominal wall, at a point, I should say, about midway between the anterior superior spine of the ilium, and the end of one of the lowest two or three ribs. The wound was closed with silk-worm sutures and the fascia with catgut. Perfect primary union.

Immediate macroscopic examination showed the right ovary to be cirrhotic, nearly circular; largest diameter, five-eighths to three-quarters of an inch. As it was cut through, five or six small cystic cavities, lying close together near the periphery, were laid open. Cortex thick; the deeper portions densely fibrous.

The left ovary I should call a little over two inches long, one and one-quarter inches wide and very thick, covered with shreds. It contained a large number of cysts of different sizes, the largest, perhaps an inch in diameter, bulging out the cortex and having thick walls. It contained a pinkish fluid. The rest of the cysts varied much in size and in the color of their contents, which in one or two of them seemed changed blood. The walls of some of those near the surface were very thin and ruptured in the handling. The appendix had all the appearances of a miniature Fallo-pian tube.

I need not point out the immensity of the subjects which this case lays before us—subjects which appear the greater just at this time when, among those who are particularly engaged in researches on the genesis of diseases of the female sexual organs, are found men with authority established long since, who see the primordial facts in embryonic life through different glasses, and disagree about many prominent particulars in the progress of embryonic development, meeting each other only where the surgeon joins them.

To explain accurately why and how in this case the left ovary and tube became arrested in their descent is beyond my power as well as beyond the scope of this paper. But, having in mind the views of KölI, Köllicher, and Freund, I will in my own words attempt a short explanation sufficient for the present purpose.
The Wolffian bodies extend from the rudimentary diaphragm low down into the pelvis. They are attached to the diaphragm above, and below to the inguinal region by what eventually becomes the round ligament. They are also bound to, and fill the whole of the hollow of the posterior wall of the abdominal cavity. Upon the inner border of each, and shaped somewhat fusiform (some say cylindrical), lies an enlargement which gradually changes in size and shape towards that of the future ovary.

Along the external border of the Wolffian body lies first the Wolffian duct, and outside of this Müller's duct, starting in its development from the inner side of the upper end of the Wolffian body. At the lower ends the two Müller's ducts become fused together to form the uterus and vagina. Imperfect, asymmetrical, or missed fusion at this point, with or without previous impairment of any of the different blastema, gives rise to such subsequent anomalies as uterus unicornis or bicornis, double vagina, absence or arrested growth of one or more of the integral parts of the sexual organism. After the fusion of Müller's ducts, the latter gradually effect their spiral descent, developing into the Fallopian tubes and, accompanied by the ovaries, sink toward the level of the uterus.

Beyond a doubt the fusion of Müller's ducts in the case reported had been imperfect, and the descent of the left tube and ovary impeded or not initiated, possibly caused by embryonic inflammation.

In the light of the exhibition of the typical ovarian pains, menstrual and intermenstrual, under conditions as above proven, there is nothing to forbid my forming the opinion that the genetic distribution of nerves in these parts takes place to a large extent in the direction of development, from above downward, i.e., from the Wolffian bodies as a starting-point, or, to put it in another way more directly to the point, that the ovary possesses an intrinsic, physiologically independent nerve-force of which we know nothing; for the case does establish that the ovary, without any connection whatever with the other sexual organs except through very remote anastomosis, may develop the characteristic ovarian pains, greatly aggravated during menstruation, and may present macroscopic appearances identical with those of a gland in normal situation and with normal surroundings.

Tait says, in his work on "Diseases of the Ovaries," that as far as he knows acute ovarianitis is the result of four conditions only:

1. Injury.
2. Gonorrheal infection.
3. Septic poisoning in the parturient condition.

1 Courty: "The Uterus, Ovaries, and Fallopian Tubes," ed. 1883, p. 56.
2 Beigel in Arch. für Gynaecologie, vol. xi., 1877. A beautiful sketch of impeded development in a child a few days after birth.
3 Freund in Volkmann's Sammlung klinischer Vorträge, No. 323.
4 "Embryonic Uro-genital System." Id.
4. Exanthematic fevers and acute rheumatism.
But we have not yet arrived at a stage where we are not compelled to leave a margin for unknown causes.

None of the four conditions named appear as factors in this case, as far as I may reasonably assume. Had she had diphtheria before menstruation began, I should have suspected this as in some way contributing as cause; but she suffered for eight years before that disease was added to her trouble. I ascertained definitely from members of her family that she had never had scarlet fever, measles, or small-pox.

Since my attention was called to Tait's suspicion of a close connection between scarlet fever and diseases of the "uterine appendages," I have been on the lookout for it, and now I can say that it figures at the head of a considerable number of pages in my case books where I wrote it down over cases in which I could find no other possible clue to the etiology in the patients' histories.

There stands left only one point in this history which may possibly be the link sought for—namely mumps.

I noticed this point when taking her history, remembering how the disease is often accompanied with inflammation of the testicles in the male, but with a more vague recollection of something I had read connecting this disease with ovarian symptoms. My search after this was without avail until only a few days ago, when I found it in Niemeyer's "Textbook of Practical Medicine," eighth German edition, 1870. He says in the chapter on mumps: "As in men the scrotum is sometimes affected, so in women the vulva and breasts are occasionally attacked with inflammatory edema. In other cases pain in the region of the ovaries, increased by pressure, shows that an ovary is inflamed, just as the testicles are in men." I have heard similar statements from others, but this is the only well-known authority I am able to quote.

In considering the etiology of the disease of this particular gland, I must discard as factors all tubal diseases and inflammations of the surrounding tissues, for, by its peculiar situation, we are limited to the consideration of parenchymatous, interstitial, and peripheral inflammation.

Even were I able, I should at this time abstain from going very deeply into this matter. The study of it, though exceedingly fascinating, is beset with many difficulties and almost at once takes one into very deep waters, as those specially engaged in it will readily testify.

This case proves one thing, however, and an interesting physiological fact it is, that, besides the symptom of pain, the ovary, with its highly sensitive organization, is quite capable, even while completely isolated, of assuming at least several of the familiar macroscopic pathological conditions found in the normally situated gland, and, if several, why not many, if not most of them? Since I cannot prove the latter, I will for the present content myself with
stating what I have thought for some time, that although the Fallopian tube is guilty of causing or conveying disease in many cases, yet attention has been turned too much to it as a causative agent, and not enough to possibilities within the ovary itself.

If at the operation I had found the left ovary with surrounding adhesions in Douglas' cul-de-sac, but otherwise in normal relationship with the uterus and tube, especially if the latter had been enlarged and congested, I might have said, and easily found many to agree with me, that all was probably due to tubal disease; septic fluid having made its escape into the peritoneal cavity. The monthly exacerbations also could then easily have been explained by the analogy with cysts in the substance of a hypertrophied cervix—pressure by distention in unyielding tissues causing pain, the ovary increasing in size during the monthly congestion, while imbedded in exudates.

Supposing, for the sake of argument, that I now find a case with the identical history of my patient above related, and at the operation I discover an ovary with exudates just like the one I found in my patient, but in Douglas' pouch, shall I not at once ascribe all the trouble to primary ovaritis? Or must I be guided by the condition of the tube?

I claim that it is easy to understand how ovarian inflammation, in the normal follicles, or in those which I think are of inflammatory origin, or in the interstitial tissues, may arise from many causes, including zymotic diseases, and, extending, may give rise to peri-oophoritis, peritonitis, salpingitis, and endometritis in succession. It is by no means proven by any one that such a process is not a common one. I have examined the histories of a large number of patients with ovarian disease, many of whom I have operated upon, and I am not at all prepared to accept the dictum that "almost invariably these conditions are due to primary tubal diseases;" in fact I am justified, from my own observations, in saying that, leaving out the cases in which the diagnosis of pyosalpinx or hydro-salpinx is upon examination made easy by a very clear history of infection, what we have been in the habit of calling diseases of the uterine appendages, with or without enlargement of the same, are in a much larger percentage of the cases than has been supposed due to primary ovarian inflammation. Especially have I noticed this in unmarried chaste women with atrophic or cystic ovaries.

I think my case throws a good deal of light upon the subject.

If I quote almost exclusively from Tait, it is not because I am unfamiliar with other writers better known as pathologists, but because behind what he says lies an immense amount of practical experience, from which he draws largely, and I like his terse way of putting things. He says: "Pain in chronic ovaritis is the inevitable feature, and nineteen times out of twenty it is greatest on the left side;" and he explains this as due to the peculiar valveless arrangement of the veins on the left side, as you know.
In my case the pain existed upon the left side only, but there was no peculiar arrangement of veins to account for it.

What did give rise to the pain, then? I don't know. The suffix "algia" is convenient, and, no doubt, has saved some reputations, but ovarialgia, and ovarian neuralgia, and many other algias, are often but synonymous with "don't know," which simple expression is more scientific, more truthful, and better English.

I have only one explanation based upon my own experience to offer. It may be remembered that at the last meeting I presented a specimen of a much-enlarged ovary, in the central portion of which was a cyst, the walls of which showed great thickness towards the periphery of the ovary, and I stated that I had come to connect this condition with especially severe pain as a symptom, in those cases in particular where the pain was constant, and so severe that it did not seem to increase much at the time of the monthly congestion.

At the operations upon such cases I have at times found many adhesions, but sometimes slight or none at all. Such cystic conditions were also found in the left ovary described above, and the centre of the painful region corresponded with its locality.

I think that I was dealing with a case of recurrent attacks of acute ovaritis, leaving behind a chronic state after the first attack, with subsequent cyst formations, successive rupture of the cysts, causing acute attacks of peri-oöphoritis and local peritonitis, at each time forming new adhesions. This indeed would easily explain the remarkable arrangement of the exudates found at the operation.

Duncan describes this process of periodical rupture of cysts, and Tait quotes him in his work referred to.

There is not much originality in my own views concerning the pathological processes through which these changes occur, and besides the subject is still somewhat misty. I will, therefore, not now discuss it. In my belief it is fast approaching a solution which will probably come from the same sources whence nearly all has emanated which we know about it up to the present time.

While working quietly at the matter, my understanding of some of the knotty points has been much clarified by the very last work on the subject, by Nagel, in the last number of Crede and Gusserow's Archiv für Gynaecologie, Vol. XXXIII., No. 1.

One of the chief new points he makes is that of a cyst-formation in which the follicles take no part, and he describes the process.

A few words in considering the condition of the right ovary: I have called it cirrhotic, for it answered the description usually given of such a one. I will for the present purpose regard the cirrhotic condition only as a direct or indirect result of some form of inflammation, and will not quote from those who disagree.

The point to which I desire to draw your attention is the connection between the cirrhotic ovary and superinvolution of the uterus. I refer you to Tait's work, pages 101 to 107.
On page 102 he speaks of likely causes of a specific form of ovarian inflammation, leading to a cirrhosis of the ovary which may or may not be characterized by general atrophy...

"Whatever be the process, there is no doubt that it is sometimes associated with atrophy of the uterus, resulting in what is known, and was first described by Simpson, as superinvolution of the uterus."... "It is an extremely rare affection." After relating two cases, he goes on: "Looking back on this case and others, and aided by the evidence of other facts referred to under the head of exanthematic ovaritis, I am led to believe that superinvolution is explained by the occurrence of inflammation, followed by atrophy, during the puerperal month, and that the uterus merely follows in the steps of the ovary, carrying the process farther however," etc., etc.

If it be correct that there is a close connection between the two conditions, then this case may be considered a beautiful example in illustration.

There was, however, no symptoms of any inflammatory action during the puerperal month to account for this process taking place then, in the absence of which we may fairly assume one of two things: Firstly, that a chronic inflammation may have existed for a long time, its symptomatic manifestations masked by a much more active process in the ovary upon the opposite side, and that this inflammation had terminated in cirrhosis before the puerperium (perhaps long before), which, as a final condition, still permitting ovulation, however, by the exemption of a few Graafian follicles, was capable of exaggerating the puerperal involution, or else the ovary in its altered state lacked the power of checking involution at the normal point.

Secondly, that a similar form of inflammation had pre-existed without cirrhosis, and this latter condition became the expression of a precipitate, painless, atrophic change during the puerperium, and "the uterus merely followed in the steps of the ovary."

The latter seems to me the more tenable assumption.

Among about three thousand patients whose records I have complete enough for statistics, I have found four cases of superinvolution, making five with this one. In each of the four the condition was found upon examination without operation. It may be interesting to glance at a brief sketch of each of them.

Case I.—Mrs. S. H., age 25, married three years; no living children. Pregnant four times; each time delivered of a dead fetus carried to the fifth, fourth, seventh, and eighth month respectively. After the seventh month pregnancy had pelvic peritonitis. After the last was quite ill for six weeks.

No sign of menses since fourteen months before her first visit. Is very hysterical at times. Headaches. Began menstruating again after a year's treatment. Electricity used. Continued for some time to flow every month but very slight, and lasting no
more than a day. Slight pain while flowing. Uterus infantile; fundus right latero-flexed.

Case II.—Mrs. Fanny F., age 26; two children; nursing infant at time of visit.

Pain in abdomen; leucorrhea; mitral murmur; bilateral laceration of cervix; barely trace of uterus above cervix.

Case III.—Sophie K., age 40; married eleven and a half years; no children; three miscarriages in second, third, and second month respectively; the last nine years before visit. Began menstruating at fifteen years, and since then every three weeks, very slight.

Enlarged right ovary; infantile uterus with a tortuous canal. After one year's treatment, uterine cavity two and one-quarter inches; cervix exceedingly small; fundus retroflexed.

Case IV.—Jetta S., age 25; married five years; three children, the youngest two and one-half years. Comes for treatment of great relaxation of abdominal walls.

Menstruated first at eighteen; last time, a year before visit. She has singularly pendulous abdomen. Intestines distended with gas. In spite of this can be thoroughly examined with greatest ease. Uterus contracted to almost nothing. Ovaries atrophied, and tubes not felt. Broad ligaments remarkably relaxed. What little there is left of the uterus has a distinct dumb-bell shape and is retroflexed.

These are meagre histories, but I give them as they are. It will be noticed that in none of them do I give the length of the uterine cavity. My case-books do not show it, and I will not guess at it. Other details I do not remember, as it is some time since I saw the last case.

A few words about the uterus unicornis:

There are some eighty cases on record, but among them all I can find only three in which the ovary or tube of the opposite side were found disconnected from the uterus or broad ligament, and in these cases there is no mention of disease.

Pregnancy in the one-horned uterus is no longer a novelty. Ancarani alone, in the Revista Clinica of Bologna for 1886, cites twelve cases.

Since the operation the patient declares herself greatly relieved, although to-day is only the twenty-second day. Her convalescence has been very smooth, and she goes to her home this week.

Although a private patient, I asked her consent to an examination by another physician, and Dr. Hanks kindly examined her a few days since. The vaginal portion of the cervix now feels like a small button, and is probably about one-half inch in diameter.

Dr. H. C. Coe.—Regarding the case in which Dr. Nilsen says there was an atrophy of the uterus and ovary, and the left ovary was buried in adhesions, I some time since expressed the opinion, and subsequent observation has only confirmed it, that the pain
in such cases is due to the surrounding adhesions, for when the adhesions are broken up and the ovaries remain, the pain is often relieved. And the atrophy of the ovary itself may be explained by the influence of the adhesions. I think it is generally better to accept the view that there is a localized peritonitis and adhesions causing pain and the condition of the ovary, than to look for some distant cause. We do not know enough about ovarian pathology to enable us to trace, in all cases, the origin of intrinsic changes.

Dr. Geo. T. Harrison.—I have listened to the paper with a great deal of interest. The ground which I have taken has always been that occupied by Dr. Coe with respect to perimetritis. I think, indeed, that a great many ovaries have been removed unnecessarily. If the perimetritis had been treated in the first place, the necessity for resorting to laparotomy would have been avoided in many cases.

I have never had any experience with pregnancy in one horn of the uterus, but have had quite a humorous one with pregnancy in a double uterus and vagina. It reminded me of the incident narrated by Schroeder of two celebrated obstetricians who got into a dispute regarding the os uteri; the one contended that it was dilated to the extent of a dollar, and the other said it was not dilated at all. Later they discovered that there was a uterus bicornis and a double vagina, and that one of them had examined through one vagina, while the other had examined through the second. So I examined my patient, and found the cervix dilating rapidly, and concluded to remain with the patient until labor was completed. But on examining a few minutes later the cervix was closed. It struck me as a curious case. At the next examination the cervix was again found dilating rapidly. At the fourth examination it was again closed. I discovered the nature of the case a little later, when the head descended and ruptured the septum. I had examined first through one vagina and then through the other, and after the child was born the double uterus could be demonstrated.

Dr. W. M. Polk.—I have very little to say in addition to the admirable presentation of the subject by Dr. Nilsen. He, however, raises what I consider to be one of the most interesting subjects in connection with inflammation of the uterine appendages, viz., the question of the origin of inflammations which lead to the destruction of the ovaries and tubes. If I understand Dr. Nilsen correctly, he regards a very large number of cases of ovaritis and salpingitis, and even of endometritis, as due to primary ovaritis. That is the opposite of the view now commonly accepted for the majority of cases. The starting point of the inflammation, it is generally believed, may be either in the uterus, and travel up the tubes, or, according to Dr. Emmet, spread through the lymphatics and veins; or it may start, according to Dr. Nilsen, in the ovary itself. But it seems to me that the majority of these cases must be of septic origin, the septicemia originating in a uterine process, be this latter tubal, lymphatic, or venous. As Dr. Nilsen suggests, in considering the origin of inflammations of the ovary we should remember that the organ, unlike any other in the interior of the body, is constantly undergoing traumatism, or the change incident to ovulation. While prepared to accept the possibility of mumps, for instance, originating inflammation in the ovaries, and ovaritis without accompanying endometritis or salpingitis, yet it seems to me we are hardly prepared to admit that zymotic diseases may cause an ovaritis without a salpingitis.
A few post-mortem examinations bearing on the subject have been made which prove that the zymotics may also cause inflammation in the endometrium and tube, and it is therefore very difficult to say whether the starting point of the inflammation was in the ovary, or whether it (the tube) was involved along with the remainder of the track.

This brings me to a question raised by Dr. Coe. If I understood him, he regards these cases of ovaritis as originating in inflammation of the peritoneum.

Dr. Coe.—I think you cannot always distinguish which are and which are not. I stated simply that some so originate.

Dr. Polk.—And those which originate upon the surface, are they independent of any tubal disease?

Dr. Coe.—Not at all, but are often associated with tubal disease.

Dr. Polk.—That is the point I wished to get at. In eliminating the cases in which the ovaritis originated from trouble outside, believed to be connected with inflammation of the tube, it leaves a few which probably can be attributed to the cause suggested by Dr. Nilsen. But I think he will have to exclude zymotic diseases from among the causes. I doubt even whether he would find rheumatism producing ovaritis without salpingitis, and possibly endometritis. In other words, such a case would be merely the expression of the activity of the disease in the uterus and its appendages.

Dr. E. L. Partridge.—While Dr. Nilsen was speaking I was reminded of a case in literature, but the name of the reporter I am unable to recall. The uterus had one horn well developed; the other was extremely rudimentary, and had no canal. Although there was no connection between it and the uterus, gestation took place in the rudimentary horn. The corpus luteum was in the opposite ovary. In order to explain pregnancy it must be admitted that the rudimentary horn not only took an ovule, but the impregnated ovule, for no spermatozoa could have entered that horn. There was sufficient uterine structure in it to permit gestation to go on until it reached a size of three or four inches, when rupture took place.

The President.—I examined Dr. Nilsen's patient, and found the condition as he has described it. The vagina was of normal size, easily dilated. There was a virginal os and cervix, slight fixation to the right, and no fixation or infiltration at all on the left. The portion of uterus on that side was perfectly movable.

Dr. Nilsen.—Dr. Coe suggests, and rightly, that in a large number of cases the chief cause of pain is adhesions; but there is no doubt about the fact that in many cases the ovaries have undergone degeneration, so-called, and the patients have suffered great pain, while no adhesions could be found. That was true of one case, specimens of which I presented at the last meeting. The ovary upon the right side was extremely degenerated, while the adhesions were very slight.

Dr. Polk thinks I will have to exclude zymotic diseases as a cause. I mentioned them with a question mark, yet according to my records they have been the only thing to which I could point as a cause in many cases. It is referred to also by Mr. Tait.

Dr. Polk.—I do not wish to be understood as saying that inflammation in the genital organs may not ensue in the course of zymotic diseases, but that in such cases it does not start in and extend from the ovary.
Regarding the case cited by Dr. Partridge, I may say that there are one or two cases on record in which that peculiarity was explained by Rokitansky on the basis of inflammation during the early weeks or months of pregnancy. In one a portion of the tube and ovary had been torn away during retraction of inflammatory products, and was found upon the opposite side attached to the abdominal wall.

HEART-FAILURE AFTER OPERATIONS.

Dr. H. C. Coe.—A case of this kind of some practical interest came under my care recently. It was one of curettage and repair of the lacerated cervix. The patient had a history of being a bleeder. Not long before she had bled eighteen hours simply from the drawing of a tooth. I had some apprehension, but although she bled profusely during the operation, the hemorrhage was readily controlled, and the only further incident was the fact that when taken back to her room she suddenly collapsed, became pulseless, and it was with difficulty that she was restored. Subsequently she did well. Whether her former condition was the cause of the collapse I was unable to say. I thought of employing an enema of salt solution, which I had done before in several cases with good result.

The question of heart failure after minor operations is a practical and important one. I have seen it occur several times. In a case in Dr. Hunter’s service in the Woman’s Hospital, the patient was operated upon two or three times, and each time she had an alarming attack of heart failure. It could hardly be attributed to ether, for on two occasions it occurred after she had been taken back to bed.

The President remarked that collapse might be dependent upon transportation from the operating-room to bed. The head, for instance, might be allowed to fall too far back.

SECONDARY HEMORRHAGE AFTER LAPARATOMY—DEATH.

Dr. C. Cleveland.—I will report a case which was not a success; the patient died. A woman, 23 years of age, presented herself to me about a month ago, complaining of an enlargement in the abdomen. On examination I found the uterus of normal size, tipped forward, and on its left was what appeared to be a large solid tumor. From its feel and its long continued growth, extending over some years, I concluded that it was probably a dermoid cyst, with some fluid but chiefly solid contents. She had also quite a large umbilical hernia. I operated upon her a week ago with the intention of not only removing the cyst, but also, if I could, of effecting a radical cure of the hernia. I first made a short incision in the median line down to the tumor, and passed a trocar and canula, but no fluid escaped. I then passed the large trocar and canula, and nothing passed through the canula. But upon withdrawing the canula a little of the contents es-
OOPHORECTOMY succeeded itself. extra-uterine of connected had I good the clot, with silk, being covered by a pedicle and was ligated without difficulty, but it was very firmly and extensively attached to the omentum. In tearing the omentum away it bled a great deal, and fearing a clot might form to degenerate and produce sepsis, I ligated it. In doing so I made what I think was a fatal mistake. I have known of its being done before. That is, I tied with quite fine braided silk, and then cut off the remaining portion of the omentum. I closed the peritoneum with catgut, and brought the fascia together, also with catgut. The hernia contained no intestine, but a portion of the omentum, which I ligated and cut off, and closed the wound and introduced a drainage tube. There appeared when I left her, an hour later, to be no hemorrhage at all, but during the night I was summoned and found her pulseless. She was transfused with salt solution, and I opened the abdomen again, found a large clot, and that the hemorrhage came from a point in the omentum below my ligature, the fine braided silk having cut through. In the future I shall use heavier ligatures of twisted, not braided silk.

OÖPHORECTOMY FOR MENORRHAGIA.

Dr. A. P. Dudley.—I will recall some of the circumstances connected with a case which may be of some interest. The patient was operated upon about seven days ago; is aged 39, has borne ten children, suffered one miscarriage, and was operated upon for extra-uterine pregnancy. The second ovary was left at the time of the operation. The menorrhagia which had existed before extra-uterine pregnancy continued afterward. There was also a good deal of nausea and vomiting, and pain in the right side. She was very weak, and wished to be assured of having no more hemorrhage after I should remove the second ovary. I did what I had never done before: first curetted the uterus, doing it rapidly and removing a number of fungosities from the fundus. I then turned her on the back and opened the abdomen. Had I not been looking for trouble I should have cut a loop of the intestines entirely in two, for they were matted together, and adherent to the whole length of the scar. The adhesions spread off from the scar and covered a space as large as my hand. An hour was consumed in picking away the intestinal adhesions before the abdominal cavity could be entered and the ovary reached. In this procedure I had to liberate about two feet of intestine, some portions of which had to be separated from the peritoneum to avoid cutting the gut itself. Finally the pelvis was entered, and there adhesions equally difficult to separate were encountered, but they were of a different
character, being string-band adhesions reaching out from the posterior surface of the uterus. The ovary was finally lifted, and found surrounded by four or five small cysts, such as are frequently seen along the upper surface of the tube. The ovary itself contained a cyst as large as an English walnut. It was removed, the pedicle being ligated with catgut, six or eight points on the omen-
tum were ligated with catgut, and a portion of it was removed. Catgut alone was used in the operation. A scidlitZ powder was administered the second day, to prevent adhesion of the intesti-
tines. She is now convalescent, the pain has been relieved, and the nausea and vomiting have ceased. I have mentioned the case because of the dangerous adhesions along the line of the old scar.

Dr. Coe.—Would it not have been well to try curetting before resorting to a major operation like laparatomy?

Dr. Dudley.—I thought it could all be done with perfect safety under one anesthetization.

**ABDOMINO-INTESTINAL FISTULA AFTER LAPERATOMY.**

**Dr. P. F. Chambers.—**I would mention a case which came under my care in Dr. Thomas' service at the Woman's Hospital. The patient, who came to us a month or six weeks ago, had been ope-
rated upon by another surgeon, and I was unable to determine from her description whether he found an abdominal abscess or cyst. She stated that the line of the abdominal incision had closed up several times, but would reopen. When open there would be quite an offensive discharge for a time, but she would wash it and it would again close. I put her under ether, divulsed the opening, passed my finger in several inches, as far as it would reach, and felt nothing. I was hoping to find a ligature or something else to account for the condition, but my finger came away only with fecal matter. Since then she has continued to discharge fecal matter, and it was this which had prevented healing. Throwing in a solution at the abdominal wound, in a few minutes it comes out through the rectum. As it was risky to cut down and find the opening in the gut, there being adhesions, I suggested to her to carry a glass stem into the orifice and keep a bandage over it. This she is doing.

The case brought to mind another which I assisted Dr. Thomas in several years ago, that of a wealthy lady, who had a fibro-cyst of the uterus with adhesions everywhere. Dr. Thomas broke up the adhesions and removed the tumor, and with it a good portion of the fundus uteri and the ovaries. She came back afterward with an external opening, and Dr. Thomas did the same thing which was done for the last patient. When she had an attack of diarrhea, fecal matter would come through the abdominal wound, and when she menstruated the menstrual blood came through it, showing that there was a connection between the uterus, the in-
testine, and the abdominal opening. This was six or seven years ago, and she still goes around with a glass stem.
Dr. Buckmaster.—I have read of some cases in which after an abdominal section there was a discharge of blood through the abdominal wound, yet it was shown there was no connection whatever with the uterine cavity.

Dr. Chambers stated that in Dr. Thomas' case fecal matter entered the vagina, proving the connection of the uterine cavity with the wound.

Dr. P. F. Mundé.—I have seen two cases of fecal abdominal fistula after laparatomy, one being a case of my own in which I removed a tumor and discharged the patient well, with the wound healed, but she returned in less than a month with reopening of the wound. It turned out to be a fecal fistula. I was debating what to do with the case, and kept washing out the fistula, when suddenly the patient was seized with a recurrence of Bright's disease and died uremic.

The other patient consulted me a number of years ago. She had a tumor which I presumed was ovarian. It was firmly united by adhesions. She had had several attacks of inflammation of the pelvic peritoneum and all neighboring organs. I advised her to have an operation done at that time. She went to Berne, Switzerland, and was operated upon by Professor Kocher. The tumor turned out to be a multilocular tumor of the ovary. Soon after recovery from the operation a fecal fistula formed in the abdominal incision. Besides the fecal discharge, the patient was troubled with severe intestinal colic; but as soon as the discharge would cease, this would become better. When I was in Berne two years ago, I spoke to Professor Kocher about it, and he replied that he was afraid it would be difficult to find the intestinal opening, and if it were closed she might have colic from obstruction. It therefore strikes me that the use of a glass tube, suggested by Dr. Chambers, is exceedingly practical, enabling the patient to get along comfortably without an operation.

Dr. A. P. Dudley.—A case occurred in my practice two years ago in which I succeeded in healing the fistula. The fistula followed a laparatomy in which it was supposed a portion of the ovary was left adherent to the sigmoid flexure of the colon. Dr. Thomas advised a second operation. I opened the abdomen and found the whole colon adherent and distended with hardened feces. I separated the colon up to its mesenteric attachment, and put the patient to bed. She did perfectly well until the twentieth day, when a lot of fig seeds escaped through the abdominal incision. Her sister had smuggled the figs to her. I at once shoved a tent saturated with balsam of Peru into the wound, and kept it there constantly, with an exchange for a fresh one every day until I succeeded in closing the fistula. The patient had a good deal of colic for a long time, and a rumbling noise in the abdomen which annoyed her a good deal.
TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, November 2d, 1888.

Dr. Joseph Taber Johnson, President, in the Chair.

Dr. Samuel S. Adams read the paper of the evening:

Hernia of the Pregnant Uterus.¹

Dr. Charles E. Hagner, in opening the discussion, said he congratulated the essayist for the thorough manner in which he had reviewed the subject of hernia of the uterus. There was not much left for him to say, but he desired to discuss the prevention, diagnosis, and treatment of this serious complication of labor. The only preventive method is surgical. If there is any hernia or separation of the abdominal muscles which would predispose to hernia of the pregnant uterus, the point to determine is whether we should operate on a child-bearing woman, in anticipation of pregnancy, to prevent such hernia, or should we allow them to remain and run the risks of the accident of hernia during pregnancy. He was not prepared to give a decided opinion on such an important point. It is generally not necessary to operate on women during the child-bearing period for such conditions. Personally he was opposed to operating. He could recall three women whom he had successfully delivered who had umbilical hernia. In the case he had reported at the Medical Society on the 31st ult., the woman had had two successful labors while she had the umbilical hernia, so he did not anticipate any trouble from it in the last; so his surprise could be imagined when he saw the uterus outside the abdominal cavity and just beneath the skin. There have been successful operations for umbilical hernia, but he would ask Dr. Thompson to discuss the surgical treatment.

The diagnosis seemed to be very easy in the later stage, when we had the signs of pregnancy, both subjective and objective.

The treatment is not so easily settled. If the diagnosis is made in the early stage, the question is whether the woman should be allowed to go to term and run the risks of Cesarean section, or have abortion or premature labor performed. His views on this subject were well understood in this Society, and he did not think it necessary to give them again. He would save the risks of Cesarean section, however, by inducing labor, if the diagnosis were made at the third month. If the protrusion in his case had come on during the first stage of labor, when the cervix was high, he would not have known what to do; he could not have turned, nor could he have applied forceps so high up; so as it occurred after the dilatation of the os, he applied forceps without any difficulty, and soon delivered the woman of a living child. His first

¹ See original articles in this number.
idea was to restore the uterus, but he was afraid to touch it except for steadying it, which the nurse did very successfully. Cases will be met which must be operated on. When it is impossible to restore and retain the uterus in the abdominal cavity, it may be necessary to induce labor.

Dr. J. Ford Thompson.—The indications for treatment are plain, and he could not agree with all that had been said. An operation for the radical cure of inguinal and umbilical hernæ in women is not necessary. If such cases become pregnant, they usually go to full term without any difficulty. The ring of an umbilical hernia is not dilatable; but such cases are not umbilical hernia, but openings in the linea alba—a tissue capable of being stretched but seldom being so, and in which there is a gradual increase in the size of the opening as the abdomen enlarges. Evacuation, in which there is an enormous distention of the abdominal wall, belongs to another class, and is exceedingly common in multiparous women. It should be the rule in such cases never to operate unless the condition interferes with the woman's comfort or life. The rarity of the operation proves this to be the case. The radical operation is not a certain cure in such cases. He could not see the danger if the uterus should get into the ring, as it is too well anchored by its ligamentous attachments to be drawn very far. It looks dangerous at the time, but the only real danger is from rupture of the uterus. If there has been no rupture, support the uterus and the os will dilate. Forceps or turning might be employed to hasten labor. There are several interesting cases where the uterus was incarcerated prior to labor. If the diagnosis is made, perform laparotomy, relieve the constriction, and close the opening; replacing in such a case would be hazardous. He advised Alexander's operation, combined with fixation of the anterior wall of the uterus to the abdominal wall just above the pubis in hernia of the unimpregnated uterus, and hysterotomy or hysterectomy during pregnancy.

Dr. Hagner.—Dr. Thompson had misunderstood him. He meant that if the rupture had taken place in the early stage, the os would have been drawn so far up in the abdominal cavity that it would have been impossible to have made out the position of the child.

Dr. Busey coincided with the views expressed by Dr. Thompson. He would consider cases like the one reported by Dr. Hagner, in which the hernia occurred during the progress of labor, as more favorable than those cases in which the hernia occurred during pregnancy and remained until labor began. In the latter class, delivery per vias naturales would be rarely and not easily accomplished. In most of such cases some operation would be necessary. If reducible, even at full term and after labor had begun, delivery per vias naturales would be accomplished.

The collated cases may be classified into four varieties: the umbilical, ventral, inguinal, and crural. The treatment would necessarily refer to the character and location, and to the period of pregnancy at which it might be discovered. If possible, reduction should be effected. It may be that in some cases efforts at reduction would be more hazardous than more radical procedures. In umbilical and ventral hernia, reduction would usually be easily accomplished if discovered during the earlier months of pregnancy. If irreducible, they should be permitted to go to term, and then if labor could be accomplished per vias naturales, it would
be the preferable method; if not, either Porro's operation or the Cesarean section should be performed—Porro's in those cases in which the puerperal womb could not be reduced. In inguinal and crural hernia reduction should likewise be accomplished if possible; but the possibility would be very rare, and only in some cases when discovered very early during pregnancy. If irreducible, the treatment would depend upon the period of pregnancy. If previous to the period of fetal viability, the induction of abortion must be considered and determined. Every such case must be decided by itself. If the period of fetal viability has been reached, then it should be allowed to go to full term, and delivery must be accomplished by either the Cesarean section or Porro's operation; the latter will most frequently be preferable, because the puerperal womb will be irreducible.

Dr. King.—In any case of ventral or umbilical hernia, if the contractive power of the abdominal muscles is lost we might assist labor by abdominal pressure. He had read of a case of ovarian inguinal hernia.

_Stated Meeting, November 16th, 1888._

DR. JOSEPH TABER JOHNSON, President, in the Chair.

DR. GEORGE BYRD HARRISON read the paper of the evening:

**FATAL APOPLEXY BEFORE PUBERTY.**

Dr. MacArdle, in opening the discussion, said: Dr. Harrison had presented a beautiful picture of his case; but it was questionable whether it was proper for such subjects to be discussed in a society like this. He had found that apoplexy in young children is not so rare, as he had found several cases in the short time he had devoted to this discussion. In subjects of purpura or hemophilia (bleeders) in whom, from an inherent weakness of the capillary vessels, or a deficiency of the fibrin of the blood, or both combined, there is a tendency to extravasation of the blood in various parts, hemorrhage into the arachnoid cavity may occur. In children, meningeal hemorrhage is not uncommon. The youngest case in which aneurisms were found by Charcot and Bouchard was twenty. Cayley describes the case of a girl of eleven with a large cavity in the left middle cerebral lobe, where nothing was discovered abnormal upon the left middle cerebral artery, but when the cerebral matter was washed away with a stream of water, the walls of the vessels were found to be dotted with oil globules, and in some places studded with round and oval nuclei. Other cases of boys have been reported where the hemorrhage was of the typical kind.

Meigs and Pepper speak of nine cases of hemorrhage into the substance of the brain in children, but give none of their own. Of the two cases mentioned by West as coming within his own observation, in one the source of the blood was in the cerebral veins obstructed by the formation of clots in the longitudinal sinus.

Cerebellar hemorrhage seems to show a certain preference for younger ages than the more usual forms.

Cerebral hemorrhage is one of the results of the arterial lesion which almost invariably accompanies interstitial nephritis. So

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1 See original articles in this number.
it was unfortunate that Dr. Harrison could not examine the kidneys of his case, as it had suffered from scarlet fever and otorrhea. Heredity is considered by some authors, but there was only the history of apoplexy in the boy's mother in this case.

Dr. W. W. Johnston.—The peculiarities of the symptomatology of cerebral hemorrhage in children make the paper of Dr. Harrison an interesting and appropriate one. Cases of this nature, which are attested by post-mortem examination, are not common. Their rarity is due to the fact that fatty degeneration of the walls of the cerebral arteries and consequent miliary aneurisms, which are the chief cause of cerebral hemorrhage, never occur in childhood. This lesion of the arteries was never seen by Charcot and Bouchard under the age of twenty years. Cerebral hemorrhage occurs more frequently in the new-born and during the first four weeks of life; after this age it is more rare. It may occur in the brain substance as capillary hemorrhage, or in the form of a clot from a ruptured vessel, or as an escape of blood into the subarachnoid space (meningeal hemorrhage). Of sixteen cases collected by Rillett and Barthez, eight were capillary hemorrhages and eight in the substance of the brain, while in two cases both forms occurred together. In infants meningeal hemorrhage is more common, while cerebral hemorrhage is found in the later periods of childhood. Hemorrhage due to pre-existing disease of the brain, the presence of intracranial tumors, states of blood alteration, as anemia, syphilis, scurvy, purpura, malarial fever, etc., compression of the vena cava by enlarged bronchial glands, or to arterio-sclerosis and contracted kidney, is more common than primitive cerebral hemorrhage.

In childhood the symptoms of cerebral hemorrhage are not the same as in the adult.

In some cases repeated convulsive attacks constitute the chief, or only symptom. In other cases violent headache, delirium, various troubles of motility of the special senses, strabismus, dilatation of the pupils, and vomiting are seen. These may or may not be associated with hemiplegia.

Had recently seen three cases in which he believed cerebral hemorrhage was the lesion. One recovered, after a prolonged convulsive attack; hemiplegia remained, but slowly improved; the child still walks with difficulty, and there has been none of the muscular atrophy of infantile paralysis. The other two cases were fatal. In one, an infant, death was sudden without apparent cause, and with no pulmonary or cardiac symptoms. In the other, unilateral convulsions and unconsciousness continued for over twenty-four hours. No autopsies were made in these cases. The rare discovery of a blood-clot in the brain after sudden death with cerebral symptoms, throws some doubt upon the diagnosis of these cases. Henoch says: "The most experienced physicians admit that they have seen very few cases of cerebral hemorrhage which were recognizable clinically," and that he has "hitherto been unable to obtain an autopsy which would confirm the diagnosis of larger cerebral hemorrhages in children."

The President called attention to the article of Dr. Parvin on the injuries to the head of new-born infants produced by the forceps and the formation of clots. He thought such injuries might be considered under the present discussion. He had recently seen a case with Dr. Lovejoy in which the forceps were used and a large clot formed under the posterior fontanelle. The tumor
pushed the scalp, and the pressure was so great that it was thought advisable to remove the fluid with a hypodermic syringe; consequently he drew off about a gill of dark-colored blood, and the compression of the brain was relieved; but, unfortunately, the hemorrhage recurred, and the child died in the course of the day.

Dr. Harrison, in closing the discussion, said: An apology should be offered for the incomplete autopsy. He had suspected typhoid fever of an ambulatory nature, and consequently the examination was more for confirming his suspicions. The return of consciousness was more marked than would appear from the history given in the paper. He was of the opinion that acute parenchymatous and not interstitial nephritis is present after scarlatina. The lesions of Peyer's patches are not pathognomonic of typhoid fever.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of October 11th, 1888.

Geo. E. Jones, M.D., Chairman pro tempore.

Dr. W. H. Wenning called attention to the different clinical features occurring in labor or childbed, and grouped together under the general title of

PUERPERAL CONVULSIONS

or puerperal eclampsia. Just as puerperal fever—so-called—simply expresses a symptom of diseases depending on different causes, and hence also portraying different symptoms, thus also puerperal convulsions do not depend upon one constant cause, but upon causes varying in different individuals. The frequent association of disease of the kidneys with the affection resulting in puerperal eclampsia, the convulsions closely resembling those found due to uremia unassociated with pregnancy, has led most authors to look upon uremia and puerperal eclampsia as standing in direct relationship to each other. That there is often no kidney trouble, but simply an emotional or mental factor, the speaker considered by no means exceptional. He would, therefore, report two cases, entirely different from each other, as regards both the etiology and clinical features, and yet both associated with convulsions.

"On the night of August 1st, 1888, I was called to see Mrs. Kate J., a primipara, 23 years of age, for severe spasmodic pains in the abdomen, which the patient feared were labor pains. I say "feared" because, according to her statement, she was not yet nine months married, matrimony having been entered into on November 20th, 1887, and a delivery before the consummation of full nine months she looked upon as a calumny upon her character.
This dread was depicted upon her countenance, and she implored me if possible to ward off the pains for a few weeks longer. After having pacified her a little by representing to her the possibility of premonitory pains coming on several weeks before the due time of labor, and further endeavoring to convince her that even if labor should take place at this time it would not righteously affect her good name, if she felt herself innocent (as I believed she was), because normal labor sometimes occurred before the completion of the full nine months, I proceeded to examine her. On external palpation I found the head in the second position—occiput to the right—and the fetal heart distinctly beating. On vaginal examination, I could feel the head through the walls of the uterus, but upon the most careful examination, I could nowhere feel the os. I contented myself with telling the patient that labor was not as yet imminent, and, to quiet her, prescribed some opium and left her for the night.

At my next visit in the morning, August 2d, I found her resting more quietly, and, though still somewhat nervous about the probable outcome of her pains, she was not so excited as the night before. I made a vaginal examination most carefully, placing the patient upon her back and also upon her side, and introduced two fingers as high as I could reach, pressing the perineum well back, but still I could feel no os. I was confident from the position of the fundus that the cervix could not be thrown so far forward or backward as to elude detection. As the pains had become less severe, I refrained from making too much manipulation, for fear of exciting uterine contractions, and therefore continued the treatment of the evening before. The rectum and bladder had been well emptied. In the evening of the same day I revisited my patient, who had again had some pains. On examination at this time I could still find no os, but, in place of it, what appeared to my finger a slight dimple, situated at a point where the os was most likely to be found. I concluded this to be an occlusion of the os, but did not endeavor to open it, hoping that if the cervix should dilate nature would remove the obstruction. I therefore still refrained from interfering, and prescribed some chloral for the night, in the event of severe pains, and promised to return early in the morning.

On the next day, August 3d, I learned that my patient had had violent pains during the night, and it was evident that labor was in active progress. I could still feel the dimple per vaginam, but the bulging of the lower segment of the uterus, caused by the descent of the child’s head, was more prominent, and pains during the examination further increased the pressure downwards. In order to facilitate the progress of labor, which was now inevitable, I first introduced a fine silver probe into the dimple above described, and after a little difficulty succeeded in passing it into the cavity of the uterus. I then introduced Palmer’s small uterine
dilator, and expanded the os sufficiently until I could introduce my index finger, which I could sweep in the interval of pain between the child's head and the wall of the cervix.

The dilatation of the os was followed immediately by a gush of amniotic fluid, and from my examination it was evident that the amniotic sac had been agglutinated to the os, and thus had prevented the expansion of the cervix. From this time onward labor progressed more steadily, although still very tediously, until in the evening of the same day, when I found it necessary to deliver the patient by means of the forceps as soon as the os had become sufficiently dilated, because the pains became continually weaker and the patient more and more exhausted. The child, a boy, was fully formed, and apparently mature, but dead—why, I do not know, except it was from strangulation by the cord which was twice wound around the neck. Even this explanation is not satisfactory, because I released the neck from the cord before the expulsion of the body of the child, so that traction could not have been great at this time. It appeared to me that the child gasped just as it was being born, but I was not sure of this. Certainly, the heart did not beat immediately after birth, and all efforts at resuscitation proved futile. The placenta was delivered by Credé's method in a short time, this stage as well as product of labor showing nothing unusual or peculiar. The patient, however, during the whole time of labor, was very much depressed. It was feared that the death of the child would have an unfavorable influence, and it was therefore at first concealed from her; but she displayed a perfect indifference to her own as well as the child's fate. On account of the patient's exhausted condition, I ordered stimulants freely, consisting of brandy and ether, both by mouth, and carefully washed out the vagina three times a day with carbolized water. This was done continually afterwards by myself. The patient, however, remained feeble and depressed, and complained of a dull and constant headache. A solution of the bromides of potassium and sodium was ordered, which mitigated the headache somewhat, but did not relieve the depression.

Early in the morning of August 5th I was called to her for an attack of mania, which, however, had subsided before I arrived. I waited a long time for a repetition of an attack as described to me, but as it did not reappear, I administered a subcutaneous injection of morphine, and left to attend other cases. At my next visits on this and the following days, making four and five visits per day, I was each time informed that she had had maniacal attacks, so violent as to arouse the whole neighborhood with her screams. Singularly, she never had one in my presence, although I waited an hour at a time for a repetition, and yet I was regularly informed at my next visit that she always had an attack almost immediately after I left the house. I confess I began to regard these attacks as hysterical, and chided the patient whenever I was
called in a hurry to see her on this account, but aside from the twitching of her eyelids, I met no response on the part of the patient. Once, indeed, she just began to make a noise during my presence, but upon my decided command she suddenly ceased, and remained quiet. The administration of the bromides was continued together with stimulants, and the urine was regularly drawn by means of the catheter on account of retention.

This state of things continued until the morning of the seventh day (August 7th) when I found my patient in a comatose condition. So different from her former state was she that she could not be aroused. She soon had a violent tonic spasm, which would last a few seconds, subside, but soon come on again in an increased degree. These spasms became more and more marked, till they became frightful; the slightest prick of a needle as that of the hypodermic syringe, which was now freely resorted to in the administration of morphia, or the introduction of a spoon into the mouth in the efforts to administer food or medicine, immediately provoked a violent convulsion. In the afternoon Dr. Brühl was called in consultation, and in spite of our joint efforts, the patient expired about 7 o’clock in the evening of the same day. The urine was examined previous to and during the attack, but no albumin was found. Careful investigation of the previous history of the patient afforded no clue. During her pregnancy she had been cheerful, never complained of headache or any other pain, her bowels and kidneys had acted normally—in short, nothing portended the dreadful calamity that was to befall her, except her fearful nervous excitement at the unwelcome news of the onset of labor at the time stated in the beginning of this paper. She received the best of care during her puerperium, as I almost literally nursed the patient myself; her pulse and temperature were carefully watched, and showed nothing unusual except a slight rise towards the end. There was no peritonitis from the beginning to the end. The action of the bowels was maintained by the use of saline purgatives and enemata when necessary; the breasts, although naturally large, gave no trouble; in fact, the somatic condition was all that could be desired. Only two unpleasant features ran throughout the course of the whole puerperium: extreme depression following the previous nervous excitement, and the maniacal attacks towards the end of her life.

This case differed in so far from the ordinary puerperal eclampsia that the convulsions were never, at least in my presence, clonic. The picture in the beginning was one of great nervous excitement, which reacted in a corresponding depression. There was nothing alarming about the case until the last day. Then, in fact, she made the impression upon me as of a person affected with some grave cerebral disease. The condition was completely changed; the nervous, spasmodic twitching of the eyes yielded to a fixedness of the pupils and insensibility of the conjunctiva. The patient was perfectly comatose.
Transactions of the

Now, in order to illustrate a case as it is most commonly found, and which in its clinical features as well as in etiology resembled all my previous cases, with the exception of the one just narrated, I will proceed to report an instance of puerperal eclampsia depending on disease of the kidneys.

In the evening of September 7th, 1888, about 8 o'clock, I was called to attend Mrs. V., aged 27, in labor with her first child. She complained of headache, and, on interrogation, admitted that she had suffered considerably in this way during her pregnancy; her feet were also somewhat swollen. Her bowels, though somewhat sluggish, had acted well that day, and she had voided the usual quantity of urine. As the presenting part was still very high in the pelvis, and the os as yet but very little dilated, I ordered some bromide of potassium for her headache, the only unpleasant symptom in her case. She had no labor pains, and would not have sent for me had she not had the impression that her "waters had broke." Early in the morning, 2 o'clock, of the next day I was summoned in haste on account of an attack of convulsions. I at once gave an inhalation of chloroform as soon as the next convulsion appeared, followed immediately by the hypodermic administration of morphine at the end of each convulsion. By this means I cut short the attacks, and tided her over her pains gradually, waiting for the dilatation of the os. About 6 A.M., however, as the convulsions came on with renewed intensity, I called Dr. Jones to my assistance to administer chloroform, and applied the forceps through a partly dilated os. I gradually brought down the presenting part, which proved to be the breech. I confess that I was somewhat puzzled as to whether the head or breech presented, as it was difficult to reach the presenting part through the vagina, and the os was so rigid as to permit very little exploration; for once external palpation in this instance deceived me. As soon as the nature of the presenting part was discovered, the forceps was withdrawn, my finger hooked in the groin of the child, and it thus extracted.

The child was born asphyxiated, but after persistent efforts at resuscitation, in which I was ably assisted by my friend Dr. Jones, it was finally maintained alive. The delivery was, of course, performed under complete anesthesia by chloroform, and the placenta delivered as soon as possible by Dr. Jones. A full dose of ergot was then administered, and the patient put to rest. A careful examination of the cervix and perineum fortunately revealed no laceration. In the afternoon of the same day the patient had two more convulsions, the last of the series, which now had amounted to seven in all. Free catharsis was produced by the use of teaspoonful doses of bitartrate of potash in lemonade, and diaphoresis caused by the regular administration of tablespoonful doses of infusion of jaborandi. The albumin in the urine gradually disappeared, and the patient made a perfect re-
covery in a few days. She was in oblivion of everything that occurred to her from my first visit, the evening before her delivery, until the second day after her labor. The only inconvenience at all expressed was a sore tongue, which had been severely bitten in her first convulsion. I placed a cork between the teeth before the onset of the next convulsion as soon as I arrived, to prevent further laceration of this organ.

The patient finally made a complete recovery without a single untoward symptom.

This case was typical as regards the nephritic cause of the convulsions; the urine was albuminous; the patient had had frequent attacks of headache before the explosion in a convulsion; the feet were swollen, etc. Otherwise she was in good health, attributing the swelling of her feet simply to increased pressure upon the abdominal vessels during pregnancy, and regarded the occasional attacks of cephalalgia as neuralgic. She was very much surprised afterwards to learn the danger through which she had passed, and rather congratulated herself for having escaped the consciousness of the dreaded pangs of labor.

Dr. Cleveland reported, in this connection, two cases of puerperal eclampsia. One of the patients was a healthy unmarried woman, 25 years of age. When the speaker was sent for by the attending physician, he found the patient in convulsions with marked opisthotonus. He knew nothing about the history of the case; indeed, the urgency of the case allowed no time for anything else except immediate action. Consequently he bled the woman at once, drawing off blood till relaxation occurred. The quantity was not measured. This ended the first convulsion. This patient seemed also to be greatly depressed, probably because she was unmarried. On further inquiry it was also ascertained that she had been subject to epilepsy, the disease dating from her girlhood when she received a fall, which was followed by epileptic convulsions. Her urine showed nothing abnormal until the following morning, when it was found thick and opaque, due to the presence of urates; it, however, cleared up by heat at first, but on further boiling a large deposit of albumin was formed. Diuretics were then freely given, principally bitartrate of potash. During this day there were no more convulsions, but they recurred on the next day. The urine remained scant, an intense headache set in, the convulsions became more and more frequent until the fifth day, when she died.

The next case was seen recently in consultation with Dr. Lowry. The patient was a secundipara, 27 years of age, her first labor having been normal. Dr. L was in attendance about twenty-four hours. The pains were unsatisfactory until the evening of Aug. 27th a terrific convulsion set in, which lasted fifteen minutes. The induction of labor was agreed upon in order to conclude delivery as soon as possible. The cervix was but slightly dilated, and therefore chloroform was administered and dilatation effected rapidly with the fingers. In half an hour it was possible to introduce the forceps and extract a living child. An examination of the urine revealed no albumin. The speaker was yet at a loss to
say what caused the convulsion. From the clinical symptoms he expected to find the urine loaded with albumin.

Dr. Geo. E. Jones remarked that Dr. Wenning's first case reminded him of one in which great moral depression seemed to play an active part in the production of puerperal convulsions. A lady living on Price Hill some years ago was in labor with twins. Everything was normal until after the first child was born, the lady being very comfortable until she was informed that a second child was to be born. On the intelligence of this news she threw herself around on her face, cried bitterly, and said, "Oh! what a shame!" The child was born in a few minutes thereafter, flooding ensued, and the patient had one convolution after another, which continued until she died.

In her family twin labors were hereditary, but she considered it a disgrace.

Dr. Reamy remarked that he would not discuss the subject of puerperal convulsions, but simply call attention to the various forms of the affection as illustrated by the cases reported. Dr. Wenning's first case was evidently one of acute mania, the attending moral influence causing an attack of cerebral disease, which was probably meningitis. This condition was precipitated by the onset of labor. His second case was typical of puerperal convulsions. The uremic symptoms were here present, and when they subsided, the patient got well. The first case reported by Dr. Wenning and one of the cases of Dr. Cleveland were different, although in both mental shock might have been the determining cause; for in Dr. Cleveland's there were present also uremic symptoms. In the latter's other case, however, there was no albumin in the urine. All this goes to prove that there is no uniform cause in the production of eclampsia. In some cases there are manifest cerebral lesions, in others not; then again the kidneys may be more or less diseased, while the cerebro-spinal system is unaffected. The speaker was of opinion, based on a number of post-mortem examinations seen, that the man who would attribute puerperal convulsions to one uniform pathological cause would be in error; but the man who would deny the influence of pathological changes in the production of these convulsions would also be in error. He who professes to treat all cases according to one method will sometimes succeed, sometimes fail in his efforts. When we consider the fact that numerous reflex causes may produce convulsions in children, such as the presence of worms in the alimentary canal, traumatism, indigestible food, etc., by which the polarity of the convulsive centres may be increased, we can readily understand how, during pregnancy and labor, convulsions may be produced reflexly by a variety of causes. In one of the cases reported this evening, it was evident that the convulsions were precipitated by labor itself. Another one of the cases (Cleveland) was in comatose condition from an acute attack of Bright's disease. When headache precedes such cases, it is significant, and should demand immediate attention. If there was any error in treatment in one of the cases reported by Dr. Cleveland, it was in being neglected before the doctor saw her. In such a case it does no good to give opium; a little more can be expected from artificial venesection by the heroic administration of veratrum viride. Forty drops of the tincture should be given every half hour until the pulse is reduced to 40. The patient will become bathed in perspiration, and the bystanders will believe that she is
dying, when in reality she is going to get well, providing the uremic symptoms are properly met. In nervous cases, however, where the patient's countenance is more pale, better results may be expected from the administration of morphia. After delivery, when albumin subsides, it matters little what is given provided it assists in the elimination of the uremic poison.

To conclude: not all cases are alike. We must examine into the cause and take into account the condition of the patient, both ante and post partum. Whenever we find this extreme mental depression we have a significant symptom of cerebral disease.

**HYPERTROPHY AND LACERATION OF THE CERVIX—AMPUTATION AND TRACHELORRHAPHY.**

Dr. Wenning also reported a case in which he had conjoined trachelorrhaphy with partial amputation of the cervix. A patient was admitted to St. Mary's Hospital with an enormous enlargement and prolapse of the womb, associated with an immense cystocele and rectocele. The woman had borne but one child, but had had a tedious and difficult labor, concluded by the use of the forceps, a little over a year ago. She was very much broken down and anemic, and the womb and vagina very flabby and relaxed. The uterus was in a state of subinvolution, measuring about five and a half inches in depth, of which two and a half inches at least belonged to the cervix alone. The laceration extended completely across the cervix from each angle of the os, but extended much further upward on the left than on the right side, the former extending into the cervico-vaginal junction, while the latter just reached that point on that side. Another deep laceration bisected the posterior lip of the neck. (The condition and exact size of the cervix is shown in the colored plate, from a sketch made by Dr. Jones just before the operation.)

The patient was put upon a general tonic treatment for several months, and treated locally with hot-water injections and glycerin tampons. Although her general condition was much improved, the local symptoms remained nearly the same, and hence it was finally resolved to relieve the woman by means of an operation. The great flabbiness and hypertrophy of the cervix induced me to remove the larger part of the cervix by cutting out a wedge-shaped mass from each lip. This disposed of the posterior and right lateral laceration, while the left lateral tear had to be freshened up to a considerable depth into the uterine tissue on that side. The gaping wound was sewed up with the running catgut suture, deep and superficial, in two tiers. The wound healed up slowly, and after several weeks the cervix could no longer be seen through the speculum. The uterus also decreased considerably in all its dimensions.

A final operation for cystocele and rectocele resulted in complete recovery.
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FIG. 1. LACERATION WITH HYPERTROPHY OF THE CERVIX—WENNING.
FIG. 2. IMPERFORATE HYMEN—JONES.
symptoms had been obscure, presenting some resembling those of typhoid and malarial fevers. There was a fulness of the abdomen, and the true cause was not detected until also a bulging condition of the vulvar entrance could be detected. The labia majora and minora were almost obliterated, and in their place was a large, round prominence, resembling the fetal head just as it is about to be born. The speaker punctured the protruding membrane and drew off an enormous amount of fluid resembling that described by Dr. Jones, but it differed in so far as it had a distinct odor. The cavity was washed out with an antiseptic solution, and the finger passed up to the fundus of the uterus, the whole uterus being dilated and the cervix very short, as if the vagina had been stretched down, practically constituting one cavity. This same lady came to the speaker’s office a few days ago and consented to a digital examination. The labial walls were full, the entrance to the vagina narrow, and the upper part even somewhat narrow or contracted, so that the os was reached with a little difficulty. The cervix had a cartilaginous feel, and, although the os was still very patulous, it was not soft.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, December 21st, 1888.
The President, Charles T. Parkes, M.D., in the Chair.

Dr. W. W. Jaggard showed

THE UTERUS, ADNEXA, KIDNEYS, AND URETERS
recently removed from the body of a IIpara that had died of eclampsia twelve hours after delivery. The specimens had been placed at his disposal through the courtesy of Dr. Fred. Jenner Hodges, of the resident staff of Cook County Hospital. The patient entered the hospital a few days before confinement; albuminuria was noted. The course of labor was normal; the first convulsion occurred after delivery.

Dr. Jaggard wished to direct the attention of the Fellows to the characters of the cervix uteri that he thought were in full harmony with the views of Bandl. He begged to make a complete report at the February meeting, when it was proposed to discuss the subject of puerperal eclampsia.

Dr. C. T. Parkes.—Did I understand you to say that the theory is that the neck becomes continuous with the uterine cavity, and the tissue of the neck of the same thickness as the uterine walls, so that they can scarcely be distinguished from each other?
Dr. Jaggard.—Yes.
Dr. Parkes.—I should say that this specimen rather demonstrates the fact that the cervix maintains its integrity. This agrees with the impression I received, and stated to the Society, in the case of Cesarean section that was presented by Dr. Ethe-
ridge. When that uterus was exposed to view during the Cesarean section, the mark of the differentiation between the neck and the body was positive and clear. I called attention to it at the time; it impressed me as being peculiar. From these two specimens I should be inclined to favor Stoltz's opinion, which is that the cervix persists in an intact state throughout pregnancy.

Dr. Henry T. Byford presented a

VAGINAL OVARIOTOMY TROCAR.

This instrument is designed to supply a want I have felt in the removal of ovarian cysts through the vagina. It is practically a curved canula with a little shield and stopper on the end which directs the fluid into a vessel. When the recto-uterine cul-de-sac of the peritoneum is opened, the tumor is held by a hook, while the slightly sharpened end is thrust into it. If the fluid be thick, the stopper may be taken out.

URETERAL CALCULUS.

I hold in my hand a renal or ureteral calculus, which I knew to be in the lower end of the ureter for several months. The interesting part of it is that there seems to be an end broken off, and that end is easily felt there now, by the finger in the vagina. I can get it between my fingers bimanually, and hope in time to thus work it down into the bladder.

Dr. Parkes.—I think it is a separate calculus; that looks like a facet.

Dr. Byford.—Probably; although it looks as if the remaining one was originally a part of this one. It breaks and crumbles easily.

CYSTO-FIBROMA OF THE OVARY.

The microscopic examination made by Dr. Frank Cary proves this to be a fibro-cystic tumor of the ovary. It was the size of an adult head, and very irregular in shape. The cysts, which made up about three-quarters of its volume, are clustered about an irregular white glistening fibrous mass at the pedicle. The cyst-walls are thick and fibrous near the centre, but become membranous at the circumference. That the pedicle became twisted some months before the operation seemed probable from the symptoms, and is testified to by this large blood clot in the largest cyst, by the dark color of the cystic wall and coagulated fluid, and by the extensive inflammatory adhesion or fusion of the omentum with this portion of the tumor. The uterus has also undergone fibroid degeneration, and is the size and shape of a pine-apple. I left the uterus and removed the other ovary, which was somewhat large and vascular. I operated October 22d at the Woman's Hospital, and discharged the patient apparently strong and well four weeks later. She was 40 years old, unmarried, had had symptoms of the tumor for fifteen years, such as incessant backache and pain in the abdomen. The menstruation was regular, and, contrary to what might have been expected, the flow was scanty.
OVARIAN PREGNANCY.

I have also brought some specimens from the practice of Dr. William H. Byford. It appears to be a case of ovarian pregnancy in which the sac was intact and developed down between the layers of the broad ligament. The tube was entirely separate from the sac, and on the opposite side of the ovary. The fetus was macerated, and, although it formed a beautiful specimen at the time, has partly fallen to pieces. There was a small cyst in the other ovary, which you will find on the same platter.

The history is as follows:

Mrs. B., Idaho, American, age 34, wife, married sixteen years. One miscarriage fifteen years ago. One child 14 years of age. Entered hospital May 19th, 1888.

Seven years ago, after an illness of several weeks, during which time she was confined in bed, and suffered much pain, she passed a fleshy substance, pronounced by attending physicians to be a false conception. Since that time, about every two years she has had periods of flowing for days or weeks at a time. Health between these periods as good as usual. About one year ago she missed two menstrual periods; was then taken sick, had severe hemorrhage from uterus, and was confined to bed for two or three weeks. Since then until she entered hospital, has menstruated every two or three weeks, and flowed profusely at such periods.

Diagnosis, granular endometritis, lacerated cervix, small fibroid tumor in posterior wall of uterus, enlarged ovaries. Was curetted a few days after entering hospital. Trachelorrhaphy was performed about four weeks later. Operation a success. Seeming much improved, in July she was discharged. At St. Paul, on her way home, began to flow again, and returned to hospital. Fld. ext. ergot was given in twenty-drop doses four times daily. August 1st she was again curetted, but did not receive much benefit from this operation. The ovaries were removed November 12th. Smooth recovery.

FATTY TUMOR OF THE SUPRARENAL CAPSULE.

The specimen I now wish to describe is a supposed fatty tumor of the suprarenal capsule, but it was unfortunately allowed to spoil and cannot be exhibited.

Mrs. Silva Walker, Pataha, W. T.; age 33; American. Married twenty years; has had five children, eldest 19, youngest 10. No miscarriages.

One year and a half ago, first noticed increase in size of abdomen in right side and through pelvis. Slight backache. Size increased very rapidly the last six months. Menstruation regular and normal.

She was operated on November 25th, 1888, and is getting well. This, I believe, is the only fatty tumor of the suprarenal capsule which I can find on record that has been removed before death. A few have been discovered at autopsies. It weighed twenty pounds.
As it filled the abdomen so completely, even pressing down the uterus, its place of origin was not determined before the operation. A feature of importance in the case was the manner in which the growth was removed. It was enucleated from the capsule, and the capsule sewed with catgut and trimmed so as to make a canal from the bed of the tumor up to the external abdominal walls. The edges of this canal or sac were sewed into the abdominal wound so as to shut off the abdominal cavity; the bed of the tumor was thus treated extra-peritoneally. The kidney was removed. Whether it might have been safely left or not is a debatable question; the chances were it would have undergone inflammatory changes. Its vessels were ligatured, and the ligatures left in the capsule. A large exposed vein, at the bottom of the cavity, was clamped with hemostatic forceps, and a large bleeding surface, on the under aspect of the diaphragm about the normal attachment of the suprarenal capsule, was gathered together in the blades of two long hemostatic forceps. The forceps were taken off at the end of thirty hours. The patient has done very well since. The tissues, which were caught in the bite of the forceps, have sloughed out, and the cavity is healing. The other kidney secretes twenty to forty ounces of normal urine a day.

Dr. Etheridge.—How long was the external incision?
Dr. Byford.—From a short distance above the pubes to a little below the ensiform cartilage. It was not measured.
Dr. Parkes.—How did you come to settle definitely that this tumor grew from the suprarenal capsule—why not from the post-peritoneal fat for a basis?
Dr. Byford.—The suprarenal capsule was not found, but this tumor was attached to the under surface of the diaphragm where the suprarenal capsule usually is. The tumor now developed above and over the anterior surface of the kidney, and did not lift the kidney forward, but rather held it back in place. There was no indication of unusual fatty development in any of the tissues about. The firmness of the capsule and its relations after enucleation favored my view. A post-peritoneal fatty tumor about the kidney would have more lateral attachment, and, I think, develop more down the side into the iliac fossa; whereas this one, which was freely movable, pressed down in the centre of the pelvis so as to give the impression at first that it was attached to the uterus. All these facts have led me to consider the supra-renal capsule as the starting point.

Cysto-fibro-myoma of the uterus.

The last specimen I have to show is a fibro-cystic tumor of the uterus weighing thirty pounds. It was surrounded by forty-five pints of ascitic fluid, so that the patient was relieved of seventy-five pounds of weight at the operation. What was left of her weighed about ninety pounds. On the right side is a plain fibroid growth; on the left side it has undergone myxomatous degeneration. A peculiarity is that the uterine cavity is completely obliterated half an inch below the normal sized fundus by the tumor, and begins
again lower down. The patient was about 44 years old and menstruated scantily. The tumor, which is known to have been growing over fifteen years, started below the fundus in the posterior uterine wall. The broad ligaments were ligated separately, and the uterine stump treated extra-peritoneally. This is the sixth day since the operation. There has been but little reaction, the drainage tube is about dry, the patient is hungry, and has commenced to direct the household affairs. Flatus passed freely from the beginning. Formerly, when I was an adherent of the intraperitoneal method of treating the stump, I stood in great awe of abdominal hysterectomy for fibroids, but since adopting the extra-peritoneal method I find that the mortality is but little greater than after ovariotomy.

I would like to say, in this connection, that I have been found fault with for failing to bring microscopic slides of my specimens, or reports of pathologists upon three cases of alveolar sarcoma of the uterus, reported at the September meeting of this Society, and that my diagnosis was called in question. In my anxiety to take up as little of your valuable time as possible, I suppose that I must have omitted to state that, in the two cases shown, specimens were obtained by curettage a week before. I removed the uteri, and were examined by pathologists—that from Mrs. M. by Dr. L. L. McArthur, that from Mrs. Sh. by Dr. M. J. Mergler. In the case referred to, in which the uterus went to pieces during removal, Dr. Doering, who was the family physician, had the specimen examined by a pathologist. The fourth case I casually mentioned was diagnosed by Dr. McArthur from specimens I obtained by curettage. In the case of sarcoma of the ovary, Dr. Bayard Holmes was my authority.

The President.—I have had under my control lately a large tumor of the abdomen. I decided that it was behind the intestine because there was one channel passing over the surface of the tumor, in which one could get a gurgling sound and something that resembled the displacement of gas. That indicated that the intestine was in front, and it so proved. It was a pancreatic cyst.

Dr. W. W. Jaggard.—The Society is to be congratulated upon the presentation of so much valuable pathological material at this particular meeting. I have been specially interested in the case of alleged ovarian pregnancy. Without for one moment questioning the accuracy of Dr. William H. Byford’s diagnosis, I beg to remind the Fellows that cases of ovarian pregnancy are very rare. Werth has demonstrated the tubal origin of many of the cases recorded as ovarian. As an essential criterion of ovarian pregnancy, the possibility of the participation of the corresponding tube in the sac must be excluded. In the specimen, as it has been presented tonight, it is impossible to exclude the participation of the tube in the sac.

The President.—I remember seeing a few years ago, in the office of Dr. Murphy, of St. Paul, a specimen of a uterus and both ovaries removed after death. In one ovary there was a fetus. The Fallopian tube and all were present.
Dr. W. W. Jaggard read the following note, entitled,

**TWO OBSERVATIONS OF TYPHOID FEVER DURING PREGNANCY.**

I report the two following examples of typhoid fever during pregnancy, both on account of the intrinsic interest of the case, and to bring out the experience of others with this complication. Typhoid fever is of very frequent occurrence in Chicago, and the Fellows that have resided in the city for a considerable period, can doubtless supply important facts that bear upon the reciprocal relations of this disease and pregnancy.

This note may be regarded as in a measure supplemental to the excellent discussion of typhoid fever, recently held before the Chicago Medical Society, at the suggestion of its President, and our distinguished Fellow, Dr. J. H. Etheridge.

**Observation No. 1.—** This case was observed and described by my friend, Dr. William M. Findley, of Altoona, Pa.

Mrs. M. H. Y., aged 24 years, Irish extraction, whose husband had been ill some six weeks with typhoid fever, was, after the initial prodromata, taken down with well-marked typhoid fever, May 7th, 1873. Temperature and pulse ranging high in evening, with epistaxis, and diarrhea early. The case would not have attracted unusual attention except for the fact that she was pregnant, and her labor was anticipated on the 10th May. She, however, was not taken in labor until the 15th. On the evening of the 14th May, I was called about 9 o’clock, after my regular visits for the day, and found her condition as follows: Temperature 103°, pulse 140, respirations 36, with marked bronchial irritation and secretion—having had six characteristic stools during the day in spite of remedies—and the contractions of the uterus quite strong and regular, os dilated to a half-dollar piece size and dilating. The heart being very feeble, and jactitation marked, with exhaustion coming on rapidly, I gave her, *ad libitum*, best port wine and brandy, so that in the four or five hours of labor she took a quart of brandy, and about as much more port wine, with no other effect than to keep her in the same condition as I had left her before labor came on. In due time, the labor was terminated, contraction was perfect once the product of conception was expelled completely, and no untoward results followed. Although during the labor her bowels were moved copiously some six or eight times, after labor the bowel trouble seemed to subside greatly, and she passed on to convalescence in some three weeks without marked irregularities, as in an ordinary case of uncomplicated typhoid fever. The secretion of milk was entirely suppressed, the mammary glands never showing any signs of activity during her illness.

The condition of the child, however, was remarkable. The entire cuticle or epidermis was shrivelled and creased as though it had been macerated in hot water, and in a day or two it was covered with bullous spots from head to foot, vesicular first, then
pustular. As the boy was healthy in other respects, in the course of a week or ten days the eruption under emollients was well, and he cuticle becoming detached, was replaced by healthy skin tissue and the baby was well, except that as a young man he carries the cicatrices of some of the bullae.

**Observation No. 2.**—This case came under my own observation. From the history of the case, written by Dr. B. L. Riese, I make the following extracts:

Mrs. A. McG., 23 years old, married June 17th, 1888. Last menstruation June 10th, 1888. Morning sickness six weeks after marriage. Husband and wife taken sick with typhoid fever about the 28th of August; both admitted to Mercy Hospital, September 4th. Husband died a few days later of a malignant type of the disease. In the case of the wife, the disease pursued a typical course, lasting about three weeks; maximum temperature, 103.4° F.; maximum pulse, 130. October 1st, several days after the subsidence of the fever, severe pains referred to the hypogastric region, hemorrhage from the vagina. After irrigation of the vagina, indagation revealed the vaginal portion softened and the ovum presenting through the cervical canal. Plan of treatment, expectant, in the absence of serious hemorrhage or symptoms of sepsis. October 3d, escape of liquor amnii; on examination, fetus protruding through the os externum; removal of the fetus, placenta, and membranes by bimanual manipulation under aseptic conditions.

The patient made an uninterrupted recovery. The ovum corresponded to the fourteenth week. (Presented for inspection.)

The apparent cause of abortion in this case was hemorrhage into the decidua serotina and placenta fetalis. The extravasation occurred before the removal of the product of conception. This fact is evident from the characters of the clot, as large as an English walnut, and firmly imbedded within the placental tissue. The presence of hemorrhagic endometritis may be inferred from the character of the decidua vera and chorion laeve.

With reference to the mutually unfavorable relations of typhoid fever and pregnancy, experience teaches that pregnancy confers upon the individual no immunity from typhoid fever. Upon the other hand, the course of this disease is commonly modified unfavorably, and, the fever in turn exercises a distinctly prejudicial influence upon the course of gestation. The tendency to the interruption of pregnancy is more marked than in any of the acute infectious diseases, with the possible exceptions of small-pox and cholera. In about two-thirds of the cases collected by Kaminski, Zülzer, Scanzoni, and others, pregnancy was prematurely interrupted.

The chief causes of abortion or premature labor are to be found:

1. In the elevation of maternal temperature causing death of the fetus by insolation, or its premature expulsion by thermic irritation of the uterine musculature.
2. In the almost constant hemorrhagic endometritis, illustrated in the specimen presented.

3. In the depression of the maternal blood-pressure with asphyxiation of the child.

4. Until within a recent period the transmission of the infection through the placenta from the mother to the child has been regarded as possible, but not demonstrable. Lately, however, Widal and Chaumeneesse have detected the bacillus, alleged to be characteristic of typhoid fever, in the blood of a fetus corresponding to the fourth month.

The unfavorable influence of pregnancy upon typhoid fever lies specially in the tendency to abortion or premature labor at a time when the loss of blood and the muscular exertion necessary to effect the expulsion of the product of conception may precipitate the lethal issue from exhaustion. There is also increased risk of perforation.

Dr. E. J. Doering.—I would like to have Dr. Jaggard tell us whether or no there are any statistics by American authors. I have had two cases, one last September, in which the fever lasted from three to four weeks, and in both of which pregnancy was not interrupted. One lady was in the sixth month of pregnancy, the other in the seventh month. The temperature in either did not exceed $104^\circ$ F. It is my experience that these cases are liable to go through without interruption. Before the discussion is closed, it seems to me it would be well to have the experience of members present. They must have seen such cases, and I do not think we should let the subject go by without all the members stating their experience. In my last case I expected daily that the patient would miscarry, but to my surprise she went right along. That was quite a severe case. In the other case the fever did not go quite so high, but the last case was typical, and lasted fully four weeks. I not only thought she would miscarry, but had grave doubts as to her recovery. But to my surprise and pleasure she passed through safely, and returned to her home in Mobile some months later.

The President.—If my recollection serves me, I am satisfied I have seen several cases of pregnancy complicated with typhoid fever, and I am quite sure that every one of them miscarried where the pregnancy was early; those in which the typhoid fever came on towards the later stages of pregnancy, the patient not only miscarried, but lost her life as well. Of course I cannot now recall the exact number, nor the cases, but that is the recollection I have. It seems to me I have often heard doctors say that it is rather an impression among medical men, that if they have a case of typhoid fever in pregnancy it is likely to be followed by a miscarriage.

Dr. John Bartlett.—I recollect but one case. That was many years ago, in which a woman pregnant about four months, and in the third week of typhoid fever, doing quite well, was taken in abortion. She went through the process of labor satisfactorily, but died the next day.

Dr. Bayard Holmes.—The transmission of the bacillus of typhoid fever through the placenta is a matter worthy of consideration. We know that in certain cases of anthrax the fetus is not
infected, although the mother's blood is full of the bacilli. After the birth of the living, healthy fetus at term, a sufficient period follows for the incubation of the disease, and then appears anthrax; first in the umbilicus, then general symptoms of anthrax septi-
cemia. In other cases, however, the fetus is infected with the 
anthrax in utero. In a paper that I presented to this Society some months ago, I held that the pyogenic infection of the fetus through the placenta was a comparatively rare occurrence. Since that time I have paid considerable attention to that subject, and I con-
clude that my statement should be limited. All cases in which infection of the fetus in utero has or has not taken place can be 
reconciled. In cases of sapremia with the presence of multiple 
known bacteria in the blood of the mother, those bacteria are all 
included in phagocytes. These phagocytes are sufficiently power-
ful to prevent the multiplication of the microbes, although they 
are not able to destroy them. This accounts for those typical cases 
of Bollinger, in which the fetus was not infected, although the 
blood in different parts of the body of the mother sheep contained the anthrax bacillus. Whenever, on the other hand, the sapremia 
has advanced to the condition of septicemia, and the phagocytes 
have been overcome, and multiplication of the bacteria takes place 
at their expense, then embolism occurs in the peripheral arteries, 
that is to say, in the uterine wall, and the multiplication of the 
microbe follows at that point in close proximity to the fetal circu-
lation. In this way they force themselves onward into the capill-
aries of the placenta, and the fetus is infected. In relapsing fever, 
and all cases of septicemia, the infection of the fetus is the rule. 
Typhoid is a form of septicemia, at least in the latter part of the 
first week. The symptoms of septicemia are then present, viz., 
capillary embolism in the skin forming hemorrhagic spots, the 
characteristic rose spots of typhoid; ptomaine poisoning, which 
either raises or lowers the temperature; internal capillary embol-
ism resulting in splenitis, pneumonitis, hepatitis, nephritis, and in 
cases of a pregnant patient, hemorrhage in the distended capilla-
ries of the decidua in close proximity to the placenta. At first 
it is simply a miliary hemorrhage, but as the destruction of the 
capillary wall increases by coagulation necrosis, a considerable 
quantity of blood escapes between the placenta and the uterine 
wall, and contractions of the uterus are initiated which ultimately 
expel the contents of the womb.

The case which Dr. Jaggard reports from Pennsylvania seems 
to me to be one of acute pemphigus (Demme), and due to a second-
ary mixed infection of the mother, and not directly to the typhoid 
disease. Pemphigus is a relatively frequent form of secondary in-
fection in children, but in the adult its manifestations are so tri-
ivial that a diagnosis is difficult. On this account the mother who 
was primarily infected seemed to escape, while the non-resisting 
child suffered the terrible disfigurement of the disease.

Dr. JAGGARD, in closing the discussion, said he was unable to 
find in the literature of the subject any statistics from American 
sources that related to the items touched on in his communica-

The rôle that elevation of maternal temperature plays in the 
causation of death of the fetus depends chiefly upon the rapidity 
with which the rise occurs, and the duration of the pyrexia. As 
pointed out by Doléris, Doré, Max Runge, and others, if the eleva-
tion of maternal temperature occurs slowly, and if it be of brief 
duration, the fetus commonly escapes injury.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, December 5th, 1888.

John Williams, M.D., President, in the Chair.

ON THE EFFECT OF GLYCERIN ON THE QUANTITY OF SECRETION POURED INTO THE VAGINA.

This paper, read by Dr. Herman, related observations made to see whether the commonly, but not universally accepted belief, that the local use of glycerin causes a flow of fluid from the vagina, was correct or not.

The observations were made with cotton-wool plugs soaked in glycerin, and with pessaries made of gelatin and glycerin. The amount of glycerin inserted into the vagina was weighed; the discharge from the vagina was weighed, and the amount of vaginal discharge from the same patient when glycerin was not used, was also ascertained by weight.

The result of the observations was in favor of the following conclusions: 1. That when the secretions poured into the vagina are not abundant, the local use of glycerin increases them. 2. That when the secretions poured into the vagina are already abundant, the local use of glycerin does not increase them.

Dr. Champneys asked whether Dr. Herman had estimated the loss on the diapers from evaporation. The conditions were favorable for evaporation, and would confirm the conclusions arrived at in the paper.

Dr. Griffith said that it was important to make sure whether the vaginal secretions were formed in the vagina or were merely retained in that canal. The vagina was anatomically skin, and actually became dry skin in procidentia and cystocele, and then no secretion could be found but what was evidently uterine. Glycerin would then act on the vagina as on any surface skin, irritating it, and by absorbing the moisture in the surface-cells, rendering it more dry than before. In Dr. Klein's opinion, the acidity of vaginal mucus, like that of the meat, was due to decomposition. After some observations by Dr. Braxton Hicks, Dr. Herman, in reply, stated that he thought the loss of weight by the napkins or pads, due to evaporation, was but slight. On the other hand, the perspiration from the skin with which the napkin was in contact might cause a slight increase in weight. Dr. Herman had used the words "secretions poured into the vagina," which did not imply any opinion as to their source. Whether the secretion was of uterine or vaginal origin, whether it was produced by glandular activity or simple osmosis, he could not tell. He would be obliged if Dr. Griffith could suggest any method, harmless to the patient, by which the secretions of the
uterus could be separated from those of the vagina. Dr. Herman believed that the vagina did secrete mucus. In cases of atresia of the vagina at more than one place, collections of mucous fluid were found between the occlusions. In cases of atresia of the os externum, the vagina was as moist as in most other patients. That under pathological conditions the vagina might pour out fluid in abundance needed no demonstration.

OBLITERATION OF THE CENTRAL CANAL OF THE SPINAL CORD IN AN EARLY HUMAN EMBRYO.

This paper was read by Mr. C. B. Lockwood. After a description of the microscopical specimens which illustrated the author's researches, Mr. Lockwood gave reasons why he believed that the appearances were not due to decomposition or soakage. They represented a fault in the process of development. The obliteration of the central canal was confined, in this case, to the dorsal region of the cord. This obliteration appeared to be in some respects an excess of the process of development, in others a retardation of that process. Mr. Lockwood attributed most abnormalities to disease, especially inflammatory processes. The epiblast, from which the dorsal portion of the spinal cord was developed, was particularly exposed to external influences. It lay next the uterine surface for some days in early fetal life when the cord was unprotected by the amniotic folds. Gynecologists could imagine conditions of the uterine surface which might exercise a pernicious influence on the epiblast. Early embryonic defects and diseases of the cord may be frequent, and may account for a variety of well-known affections, such as congenital defects of joints, club-foot, and syringomyelocele.

Mr. Doran concluded that the same defects and diseases would account for anencephalous monsters. Acephalous or acardiac monsters were developed in quite another manner, namely, through abnormal vascular communication between twins.

Mr. Lockwood thought that defects in the epiblast partly accounted for anencephalus.

SEQUEL TO A CASE OF BRIGHT'S DISEASE DURING PREGNANCY.

Dr. Herman's original report of the case was published in the twenty-ninth volume of the Society's Transactions. The patient, aged 21, had labor induced at about the seventh month, on April 15th, 1887. Symptoms of Bright's disease had apparently been present for about two months. She left the hospital about three weeks after delivery. Dr. Herman now reported the termination of the case. The symptoms became worse after her discharge, and she died from acute edema of the larynx and tongue, in St. George's Hospital, on January 26th, 1888. The report of the necropsy, prepared by Dr. Penrose, was read. There was no edema of the feet, the superficial veins of the thorax were distended, and there was generally fulness of the neck; the local disease, about the larynx, was very marked. The brain-tissue was firm, there
was no excess of fluid in the ventricles. There were retinal hemorrhages. The great serous cavities contained a small quantity of fluid. The lungs were edematous, the left ventricle greatly hypertrophied, the aorta was but little atheromatous. The kidneys were granular, the cortex readily peeling; their weight was nine ounces. The liver was large and fatty, weighing four pounds four ounces; the spleen large and firm, weighing seven ounces; it contained a small infarct. Dr. Herman noted the rapid production, at a very early age, of granular kidney, and the associated cardiovascular changes.

**EXTRA-UTERINE FETATION; ABDOMINAL SECTION EIGHT MONTHS AFTER DEATH OF FETUS; SAC FORMED BY LEFT FALLOPIAN TUBE AND LEFT BROAD LIGAMENT; RECOVERY.**

This paper was read by Dr. Cullingworth. The patient was 27 years old, her last confinement happened five years ago. In April, 1887; she menstruated for the last time. In July she quickened and continued to enlarge and feel the movements of the fetus till December, when she suffered for an hour with labor-pains. Then the movements ceased, and the abdomen decreased in size. Seven months later she was admitted into hospital. An abdominal tumor lay behind the uterus, an eight-months' fetus was found in a sac composed of the left Fallopian tube and broad ligament. The liquor amnii and umbilical cord had disappeared. The placenta lay in front and was removed without hemorrhage. The fetus was firmly adherent to the sac-wall. A portion of the sac was removed, the remainder being stitched to the abdominal wound and drained. The sac closed in well; a small piece, near the incision, sloughed. The patient made an uninterrupted and aseptic recovery, the temperature during convalescence never exceeding 100.4°.

After some observations by Mr. Sutton, Dr. Griffith asked if the fetal sac had been found, in this case, to be in the broad ligament or not. Mr. Tait believed that no extra-uterine pregnancy ever advanced near to term, save when the sac was subperitoneal. A specimen in the Museum of St. Bartholomew’s Hospital almost disproved this theory. Dr. Griffith further asked if Dr. Cullingworth found any advantage in the median incision and the opening of the peritoneal cavity, as it had been shown by Mr. Thornton and others that it was usually better to cut down directly on the sac, and to avoid opening the peritoneum.

Dr. Herman noted that in this case the placenta resembled the same structure in cases of extra-uterine gestation removed some time after the death of the child, which had been exhibited before the Society by Dr. Champneys, Dr. Aust-Lawrence, Mr. Thornton, Mr. Doran, and himself. Effusion of blood, which partially organized, made it more solid. Great diminution in the activity of the circulation in contiguous maternal structures occurred, so that the placenta could be detached and removed with trifling if any hemorrhage. Hence the slight risk which attended secondary operations. It would be well if we could determine the date at
which the changes in the placenta occurred. Litzmann had endeavored to find out the date at which the maternal circulation might be expected to have ceased, but concluded that it could not be ascertained with certainty. He fully believed that intra-peritoneal as well as subperitoneal pregnancy might proceed nearly or quite up to term. He had operated on one such case himself; the placenta was attached to the bladder and anterior abdominal wall.

Dr. Champneys said that the statement that all cases of extra-uterine gestation which went quite or nearly to term were intra-ligamentous was unfounded. In his own case, described in the Society’s Transactions for 1887, the fetus was simply free, kicking about among the bowels. Furious hemorrhage had occurred, according to Litzmann’s statement, from the placental site four months after the death of the child.

Dr. Galabin asked for the relations of the mass felt behind the uterus. Had the peritoneum been stripped off the back of the uterus by the expanding sac? There was positive evidence that abdominal as well as intraligamentous pregnancy might go on to term or nearly to term. In the case of combined extra-uterine and intra-uterine fetation in which he had operated, the fetus was inclosed only in its own thin membranes, and the placenta was attached to the pouch of Douglas and the back of the uterus.

Dr. William Duncan thought that very many cases of rupture were between the layers of the broad ligament and not into the peritoneal cavity. He had operated on such a case.

Dr. Playfair approved of Dr. Cullingworth’s practice. At the time that the patient was seen by him, no other resource but secondary laparotomy was possible, and it had happily proved successful. On the other hand, Dr. Harris’ tables of cases of primary operation (before the death of the child) showed a most gratifying success. With increased experience, yet better results would be obtained. Dr. Playfair noted the great differences in the state of the fetus, when retained after term. In Dr. Cullingworth’s case, it was fresh and unchanged, though retained for six months. In the case preserved in the Museum of the College of Surgeons, where the fetus had been retained about fifty years, it was also fresh. Yet he had seen a fetus transformed, after only a few month’s retention, to a mass of adipocere and bone. In older cases it sometimes became mumified or ossified, forming a “lithopedion.” Rupture of the tube early in gestation, as in Dr. Cullingworth’s case, was by no means necessarily fatal, and often led to the development of an abdominal gestation. He related the case of a lady who was suddenly taken very ill in the street. He was called in to see her, and diagnosed ruptured tubal pregnancy, Dr. Matthews Duncan confirming the diagnosis. Laparotomy was decided upon. The patient, however, rallied completely before the necessary preparations for the operation were made. She left England, but Dr. Playfair had learned that an abdominal tumor had since developed, and that Dr. Breisky, of Vienna, was about to perform laparotomy.

Dr. Cullingworth, in reply, gave reasons for feeling sure that the pregnancy was originally tubal, and had become a broad-ligament gestation through rupture of the tube. Operation without opening the peritoneum would have been impossible, owing to the relations of the parts. The cessation of placental circulation had proved most favorable for the operation. Irregular hemorrhages
in the early months of pregnancy, a great aid to diagnosis, had not been observed in this case; no decidua had been expelled. Since the paper was written, more ligatures had come away, and the wound had closed. Dr. Playfair's observations on the fate of the fetus were interesting. When suppuration and graver symptoms occurred, perhaps the fetus had become adherent to intestine, septic changes ensuing. He was glad that the President was in accord with him as to the desirability of operating without waiting for symptoms. A patient going about with a dead fetus in her abdomen was in constant danger, and an operation was most likely to be successful when performed before septic symptoms had set in.

TRANSACTIONS OF THE GERMAN GYNECOLOGICAL SOCIETY.

BEING SECTION XVIII. OF THE SIXTY-FIRST ANNUAL MEETING OF GERMAN NATURALISTS AND PHYSICIANS.

HELD AT COLOGNE, SEPTEMBER 17TH TO 23RD, 1888.

(Translated from the Centralblatt für Gynäkologie.)

(Concluded from p. 211.)

BEAUCAMST (Cologne) read a paper on

INVERSION OF THE STUMP AFTER PORRO'S OPERATION.

Despite the perfection of the conservative method of Cesarean section, there are a number of cases in which Porro's operation seems to be indicated—a fact emphasized also by Saenger, Martin, and Leopold. The present case is worthy of mention only for the reason that a modification in the treatment of the pedicle was employed.

In the Centralblatt f. Gyn., 1881, No. 25, p. 605, Frank proposes inversion of the stump. "The uterus is to be removed as in supra-vaginal amputation; the entire wound margin of the pedicle is to be circumligated with strong silver sutures, which are to be left long. Then... all the ligatures are to be passed outward through the cervical canal and the vagina. By traction from below and pressure from above, total inversion can be easily effected... Thus we also have the wound surface outside the peritoneal cavity and certainly in a favorable location." Experiment on a dog gave good results with this method, which was later also successfully employed by Frank, at the midwifery institute in Cologne, on a living woman. The patient was a Vpara, aged 35, with advanced carcinoma of the cervix. Twin pregnancy had been diagnosed, although only one focus of heart-sounds could be found.
The lower fetus was dead and partly macerated. The Cesarean section was done according to the usual rules; the uterus was turned forwards, and after it had been emptied and the vessels ligated, a rubber tube was placed around it. The stump, eight centimetres in length, was hemmed with silk ligatures passing through the peritoneum, muscularis, and mucosa, and after removal of the tube the stump was inverted. Reinversion was prevented by a few catgut sutures extending through the funnel, and in order to insure the closure of the abdominal cavity towards the vagina, the serosa of the anterior wall was stitched to that of the posterior.

The course of the puerperium was good, excepting an abscess of the abdominal walls. Five weeks after the Cesarean section the patient underwent a second operation in the Citizens' Hospital, where she still is.

Contrary to Sänger's expectation ("Neue Beiträge zur Kaiserschnittfrage," Leipzig, 1885, p. 25) this method has not only been attempted, but tested. Its ease of execution may serve to recommend it; it unites the certainty of the extra-peritoneal treatment of the pedicle with the rapid recovery and elegance of the intra-peritoneal method.

The paper was discussed by Linkenfeld (Elberfeld), Weinhold (Breslau), Krukenberg, and Freund, Jr.

Prof. Freund (Strassburg) read a paper on TUBAL OPERATIONS.

Thus far it was mainly tubal pregnancy and pyo-salpinx which furnished the indication for operative interference. Tubal pregnancies at times progress almost without symptoms and go to term; others progress to near term with more or less difficulties; but the great majority present the well-known, usually serious troubles and perish by rupture. Both in the course and in the history we meet with the most remarkable contradictions; sometimes it is absolutely impossible to find any symptom in the earlier history of the patient which may be of etiological value, in other cases the origin is clearly evident. With reference to pyo-salpinx likewise, the views (for instance, as to the etiology) are in many respects opposed to each other. Personally the speaker's standpoint was, that he could not entirely side with Nöggerath in his views and conclusions. Many persons who are doubtless infected remain free from troubles, or are cured and have normal labors. Others, of course, become permanently diseased. Even in the anatomical substratum of the disease there are the most remarkable differences, from the simple sauculated tube to the sausage-shaped formation with numerous constrictions; no universally satisfactory explanation has hitherto been found for this variation in the specimens. In this respect the study of the developmental history of the tubes will lead in the right direction. The tubes are
at first straight extended canals which, as they grow in length and descend with the ovary, begin to curve until they reach the iliac fossa, that is to say, in the thirty-second week. Then the growth in length ceases, and the tubes again stretch, first in the inner half as far as the four turns in the new-born; at the age of puberty the remainder also stretches, excepting one half-turn at the extreme end. In many women the entire genital canal, including the tubes, remains in a condition of partial insufficiency, that is to say, it remains stationary in the stage of fetal development. The turns often have grown so largely that they almost form loops. At the points of sacculation the walls are atrophic, smooth, and thin; at the constrictions, hypertrophic. According to the nature of the tube which becomes diseased—that is, whether it is of normal development, i.e., extended, or curved as in the fetal form—there appear the above-mentioned varying anatomical types; the different degrees of fullness which were formerly—even though contradictory in themselves—accepted as the cause of this varying form in diseased tubes have therefore nothing whatever to do with their origin.

The practical application of these statements might be the following: Pregnancies in a twisted tube hardly ever go to term, owing to the thinness of the walls. Persons with such a defective genital canal, on account of their narrow vagina, are more easily infected and are cured with greater difficulty. With reference to therapeutics the deduction would be: Pregnancies in such twisted tubes (or those dilated by infections) can be cured only by operation, at least when the rupture does not pass with the symptoms of an ordinarily hematoccele as it often does in the first cases of tubal pregnancy; two or three of such relapses at times pass favorably, but most of them perish during the third. Saccular tubes, however, sometimes only need to be cut open and washed out, possibly making a new abdominal opening.

Meeting, September 20th, 1888.

President, Frank.

Wissemcr reported the extirpation of an ovarian tumor and exhibited macroscopic and microscopic specimens.

Firnig (Cologne) read a paper on

A NEW PROLAPPSUS OPERATION,

followed by the presentation of cases.

The value of an operation should be judged by the final results. He had the pleasure of presenting some cases of prolapsus operation performed by him in recent years, following the example and method of Frank; but since these cases were comparatively recent, he had brought along two cases from Cologne who had been operated upon respectively six and seven years ago by Frank. Before exhibiting the cases, the speaker explained the advantages
of the new operation over the older ones and described its execution. Former operations, he said, had had the object of narrowing the vagina and vulva. Thereby, in successful colporrhaphies, the uterus had been prevented from descending into or through the vulva without having been even approximately brought into its correct position and without removing the sequels of the prolapsus. By the new method of operation, besides the narrowing of the vagina and the formation of a high perineum, the vagina was over some distance made to adhere to the underlying structures and became united to them even more firmly than was the case in a normal vagina. In this way the uterus was brought and kept in its normal position; in persons thus operated upon it was not found on the perineum, but high up. The sequels of the prolapsus gradually disappeared spontaneously where the normal position was thus secured.

The steps of the operation are briefly the following. The vagina is partly circumscribed by a horse-shoe shaped incision at the border between the external skin and the mucous membrane. The length of the sides of the horse-shoe is determined by the intended height of the perineum. The vagina is then entirely detached from the rectum: up to the posterior fornix without the use of cutting instruments, which is easy; after making the horse-shoe shaped incision, the knife is no longer needed; at most some tense portions of tissues are divided with the dull edge of the scissors. The detachment is difficult only at the introitus vaginæ. No vaginal tissue is excised, the apparently redundant tissue is made into a welt towards the anterior vaginal wall by buried catgut ligatures inserted in tiers along the entire extent of the detached vagina. This produces, as it were, a living tampon firmly united with the underlying tissue.

The vaginal welt becomes lower in the course of time; but the vagina remains adherent to the underlying tissue.

The closure of the perineal wound caused by the detachment of the vagina with deep and superficial silver sutures is self-evident and requires no detailed description.

After some further explanation of the technique of the operation, F. exhibited several cases operated upon by himself. In one case, anterior and posterior colporrhaphy had been previously performed by another operator and failed. In another case, no sutures were used, but the wound cavity caused by the detachment of the vagina was plugged and allowed to granulate from within outwards. The perineum was then united in a simple manner in the third week. This case shows that stress should be chiefly laid, not upon the welt and the narrowness of the vagina, but upon the firm adhesion of the vagina to the underlying tissue. A laboring woman, operated upon by Frank seven years ago for a total prolapsus, has borne four children since the operation, and last year acquired a double inguinal hernia
from lifting a heavy weight, without recurrence of the prolapsus. In none of the cases operated upon according to this method has a relapse occurred.

SCHEMIDT (Cologne) read a contribution to
THE QUESTION OF THE INTRA-PARIEtal TREATMENT OF THE PEDICLE AFTER MYOMOTOMIES.

After briefly considering the advantages and disadvantages of the extra- and intra-peritoneal treatment of the pedicle in supra-vaginal amputation of the uterus, the speaker mentioned the operations of V. Hacker and Kuemmel, who excluded the uterine pedicle from the abdominal cavity by surrounding it with peritoneum, and closed the abdominal walls over it.

He had operated in a similar way in two cases. One of these was a tubo-uterine pregnancy in which the sac had burst, and death would have occurred by hemorrhage from the lacerated uterine tissue had not the operation been done. In order to arrest the hemorrhage, a wedge-shaped piece was excised from the left fundal angle, thereby opening the uterine cavity. Since the friability of the tissue did not permit of sufficient tightening of the sutures to control the hemorrhage with certainty, the speaker placed the ligated fundal angle extra-peritoneally by surrounding it below the line of incision with peritoneum. Then, commencing at the upper angle of the wound, the recti muscles were united in the lower angle of the wound in such a way as to carry the needle through both muscles and the intervening cornu of the uterus. In tying the sutures, the recti muscles on both sides were thus firmly pressed against the uterine suture. In the lower angle of the wound the skin was not united at once, but closed a few days later by a secondary suture.

In the second case, a supra-vaginal amputation for a myoma the size of a man's head, the pedicle was treated in the same way, but the abdominal walls were at once closed completely. After typical removal of the uterus, exact coaptation sutures were placed as for dropping the pedicle in the intra-peritoneal treatment; then, after removal of the rubber ligature, the stump, which could be nicely kept up by the threads which had been left long, was covered with peritoneum as in the extra-peritoneal treatment, and the abdominal cavity closed by stitching the peritoneum as far as the upper angle of the wound. This was followed, as in the former case, by stitching of the recti muscles; two sutures in the lower angle of the wound being passed through muscles and stump, avoiding the uterine canal. In order to prevent dragging, still another ligature was carried through the skin, muscles, and stump, and knotted at the same time with the succeeding superficial sutures. The upper segment of the stump, therefore, lay between the muscles, firmly compressed by them, while above it, appressed by the single suture, the cutaneous wound was closed. The course was entirely without reaction.
Prof. Freund (Strassburg) was in favor of treating the pedicle according to the nature of the case. In the intra-peritoneal method, he constricts the funnel in the stump, as in the funis, by two circular sutures; one deep-seated, more in the bottom of the funnel, the other higher up, so as to make the edges with the peritoneal border incline inwards.

H. W. Freund (Strassburg) read a paper on

The Frequency and Treatment of Malignant Ovarian Tumors.

Of the ovarian tumors operated on in the Strassburg clinic, 18.8 per cent were of a malignant character. The results obtained, contrary to earlier experience, seemed to encourage operating for these tumors. One hundred cases were related.

As the first diagnostic symptom of malignancy, hydrothorax was mentioned. Laparatomy, with the most thorough possible removal of all portions of the tumor which can be detached from the pelvis, is certainly to be preferred to tapping, and even in far advanced cases yields at least temporary improvement; the sequels of such laparatomies were sometimes similar to those in chronic and tubercular peritonitis.

Meinert had twenty per cent of malignancy; he thought that when menstruation assumed an atypical character it was an early and valuable sign of malignancy.

Kocks (Bonn) read a paper on

Ovarian Capsules Without Any Other Opening Than the Entrance to the Tube.

The paper formed a dissertation on specimens from the inner female genital organs of the common otter, Lutra vulgaris. In these and some other mammals, especially carnivora of the marten type, the ovaries are inclosed in a thin-walled transparent capsule—a fact to which attention had first been called by E. H. Weber. The interior of this capsule has absolutely no connection with the peritoneal cavity; only the uterus opens into it through the tube. This tubal opening is surrounded by long fimbræ which project free into the sac.

In the lutra, therefore, the ova cannot reach the peritoneal cavity, as is the case in most mammals and in man, but must take their course direct through the tube into the uterus. The female genital gland, therefore, has here, like every other gland, its immediate efferent duct—the tubal canal.

The peculiar undulating course of the tubes was illustrated by drawings, and in the specimens it was shown that they almost completely encircle the wall of the sac before penetrating it and opening into its interior. When held to the light, the ovarian capsules are so transparent that the ovaries can be discerned. The sacs distended by air blown in from the uterus and kept in alcohol still contained the air with which they had been inflated several months before.
The narrow tubes spring from wide uterine cornua which have a common cavity only for a short distance. The small, bean-shaped ovaries were made visible in other specimens by slitting the capsule.

REVIEWS.

Gonorrheal Infection in Women, by William Japp Sinclair, M.A., M.D., contained in No. 2 of Wood's Medical and Surgical Monographs, consisting of original treatises and complete reproductions, in English, of books and monographs selected from the latest literature of foreign countries, with all illustrations, etc. Published monthly. Wm. Wood & Co., New York, 1889.

By no chance could the publishers have selected for reproduction a more widely interesting or vitally important subject than that of Dr. Sinclair's masterly essay. As he states in his opening paragraph, gonorrhea, as it exists in the female, is still strangely neglected; its symptoms; its differential diagnosis; the ravages which are its immediate or remote results, are hardly recognized or understood, and its ordinary treatment, in the light of recent pathology, is puerile. Yet from its virus arises a group of pathological conditions of surpassing importance in their social and moral consequences, as well as in their clinical features.

In a historical retrospect of the pathology of gonorrhea in women, considerable space is given to a consideration of Noeggerath's classical paper and its immediate influence; then follows the description of Neisser's discovery and the influence of the "gonococcus" on contemporary pathology. Directions are given for the examination of secretion, to determine the presence of the specific diplococcus; its clinical significance is explained; its mode of development in the tissues; its effect; its clinical phenomena in both its acute and chronic, or "creeping," forms; and its consequences are demonstrated. The uterine, tubal, and ovarian complications, the consequent sterility, and gonorrheal puerperal fever are each separately discussed. Treatment, to be effective, must be energetic and immediate; when the disease has once passed beyond the uterus, it is beyond our reach; before this time it may often be arrested by careful and thorough germicidal applications to uterine-cavity, vagina, and vulva, full particulars of which are detailed.

Regarding prophylaxis, the author says: Men must protect themselves; they must avoid the evil or take the consequence. If the consequences were confined to themselves, nothing more need be said. But the innocent suffer most. Gonorrhea in the woman is as ruinous as syphilis; there is little to choose between the diseases. The men must protect the women. The great majority of them are amenable to reason, and would listen to the dictates of humanity and of honor if their consciences were appealed to. With regard to their wives, there is also the sentiment of self-interest to influence their actions. It only needs definite knowledge to be diffused among them as to the risk of inflicting untold suffering upon those whom they wish to protect, to greatly influence
their conduct, and the only guardians of the necessary knowledge are the medical profession. While the doctors look upon gonorrhea in women as a mere bagatelle, what can be expected of their self-indulgent male clients? As long as the medical practitioner is indifferent, the education of the layman will not begin; he will not be adequately impressed with the physical grounds for exercising self-control in order to escape infection, or for the need of persevering industry and self-denial in order to completely and rapidly eradicate the disorder once contracted.

Transactions of the American Gyneco logical Society, volume 13, pp. 500. Philadelphia, William J. Dornan, 1888. In the October, 1888, number of this journal there is a brief extract of the matter contained in these transactions; matter which is of such universal and practical interest that, in its complete form, it should be in the library of every working gynecologist. "Good wine needs no bush," it suffices to say that the customary excellence of the transactions is sustained by the present volume.

ABSTRACTS.

1. E. Odebrecht: Contribution to the Question of Operative Management of Ulcerating Uterine Tumors (Zeitsch. f. Geb. und Gyn., XV., 1, 1888).—O. gives detailed histories of two cases of uterine myomata. One case, in which the tumor was in the anterior wall, gave trouble during the puerperium by suppurating, owing probably to injury received in removing an adherent placenta. It was found necessary to perform hysterectomy, with ultimate good result. In the second case, the myoma, as large as the head of a year-old child, was expelled by uterine contractions.

W. L. B.

2. W. Hirsch: On Intestinal Occlusion after Ovariotomy (Arch. f. Gyn., XXXII., 2).—According to H., occlusion could take place in three different ways: It may be, first of all, of direct origin; the gut is included in cicatricial tissue. Secondly, it may be of indirect origin, the occlusion occurs here independently of the wound-surfaces, which heal without implicating the gut; but the irritation attending the operative procedure and that of the antiseptic fluids used in irrigating the abdominal cavity, induce an aseptic peritonitis; the adhesive bands resulting inclose the intestines in theomentum and hinder peristalsis. Any external agency, such as blows or pressure upon the abdominal walls or the impaction of feces, may then determine occlusion. He reckons as in the third class all cases of occlusion not dependent upon inflammation. The accident is purely mechanical, as kinking, catching of the gut between the pedicle and abdominal wall, or between the pedicle and the pelvic wall. A mixture of all these causes is frequently concerned in the etiology. In cases of the first two classifications the occurrence takes place only after the lapse of some time; the patients die of occlusion after the wound has healed, and time for convalescence to set in has arrived. The purely mechanical occlusion occurs shortly after the operation, ere the process of healing is completed. An acute and chronic form of occlusion may
nevertheless be observed after ovariotomy. Observations were too limited to
determine what part previous pathological processes in the intestines play in
the production of obstruction, but this factor is theoretically very probable.
In one thousand ovariotomies, eleven deaths were due to this trouble according
to Spencer Wells. The time of occurrence varies; generally developing
shortly after operation, instances are recorded where the first symptoms
showed themselves years afterwards. The symptoms are those usually asso-
ciated with this affection. In some of H.'s cases the pulse and temperature
remained normal throughout. The diagnosis is so difficult as to make sec-
dary laparotomy a procedure extremely hazardous. It had been done once
in the fourteen cases reported by H. with successful result to the patient. The
diagnosis approaches nearest the certainty only where there is distinct ster-
coraceous vomit and the bowels remain confined. All other symptoms are
those attending an ordinary peritonitis. Diagnosis is also easier in cases
where the trouble supervenes some time after the operation. The occlusion
occurs most frequently at the abdominal wound. In occlusion of the small
intestine the symptoms are the more violent; Jaffe's test for indiace in the
urine will also show an increase of that substance where the trouble is in the
small, while it remains unaltered when the occlusion occurs in the large inte-
tine. The prognosis is extremely unfavorable. Of H.'s fourteen cases all
but one, upon whom secondary laparotomy had been performed, died. A
number of authorities are quoted to show the advantages of various prophyl-
actic measures. If occlusion has once set in, choice must be made between
two operations: laparotomy or colotomy. The choice depends upon the de-
gree of certainty with which the site of the occlusion is located, and whether
the procedure will guarantee against a recurrence of the strangulation. If
the site be positively known, and there are slight prospects of reducing the
occlusion, and if the latter be in the colon or rectum, an artificial anus
must be established. Success depends essentially upon a timely operation. In
those cases where, by reason of great debility or unwillingness of the patient
to appreciate the necessity for operating, repeated washing out of the stom-
ach with Hebe's apparatus may be resorted to, leading to moderate success;
in some cases it may possibly produce spontaneous correction of the evil;
three cases of ileus were cured by this procedure by Kussmaul, and other cases
are reported which were relieved to a considerable extent. A case is reported in
which a patient suffering from great tympanites was held head downward on
the sixth day, when a great quantity of gas was suddenly expelled from the
anus. Medication consisted of the administration of narcotics, principally ex-
cessive doses of opium. A detailed history of fourteen cases of the malady
under consideration is presented by the author, illustrating various phases of
occlusion: in one case the latter being apparently due to the pressure from
large masses of fat in the mesentery.

L. H.

at the St. Petersburg Maternity from October 16th, 1885, to Janu-
ary 1st, 1888 (Arch. f. Gyn., XXXII., 2).—During the above-mentioned
period, Cesarean section was performed seven times, with one death; in two
cases the fetus was dead and beginning to undergo maceration. The operation
was performed five times after Porro, twice after the conservative Sänger-Leo-
pold method. One case was found to be unsuited for general chloroform an-
esthesia, because of the subnormal temperature, cyanosis, and feeble pulse, and
was locally anesthetized by means of a Richardson apparatus; notwithstanding-
4. Th. B. Hausen: Concerning the relation between Puerperal Insanity and Puerperal Infection (Zeitschr. f. Geb. u. Gyn., XV., 1. 1888).—There have been two diametrically opposite views held with regard to the etiology of puerperal insanity. Some authorities believe that the disease is psychic in character; that is, it is due merely to the impression made on the nervous system by some disturbing cause, whether it be sexual excesses previously indulged in, or merely the shock of labor itself. On the other hand, those who believe in the somatic theory try to find a pathological condition to explain the mental condition—parametritis, mastitis, etc. The generally accepted view to-day is, that puerperal infection is an etiological factor in a minority of cases of puerperal insanity. Mental derangements in puerperal women are not common, and data are hard to procure. Out of 15,468 women confined during the period from 1875 to 1887 in the Copenhagen Lying-in Hospital, there were only forty cases in which mental derangement was noticed. All authors with one exception recognize in puerperal insanity the ordinary forms of insanity, melancholia and mania predominating.

The results of the examinations by the author, with regard of the etiological value of infection may be summed up as follows: He was able to collect and carefully analyze forty-nine cases of mental disturbance in the first week after childbirth. Of these there were forty-two in which there were physical evidences of puerperal infection. In forty of these, the disease took the form of acute confusional insanity with hallucinations. In the other two cases there was a period of mania with hallucinations lasting for a very short period. In five of the seven cases without infection the disease had an entirely similar character, except that in four there were epileptiform convulsions. The fifth was attacked with acute phthisis—possibly also septicemia. In the two remaining cases without infection, the psychosis took an entirely different form, namely, acute mania without hallucinations in one case; in the other, melancholia. The author sums up his deductions as follows: ‘‘It
is scarcely an exaggeration to say that if in the first week of the puerperium a psychosis in the form of an acute confusional insanity with hallucinations appears, without the occurrence of any other (non-puerperal) acute infectious disease, and without a preceding eclampsia, one can be sure puerperal infection is present, even when fever and other physical symptoms are not discoverable by a thorough examination."

The great value of these observations does not lie in the treatment of the patient already suffering from puerperal insanity, but in the recognition by the physician that she is in fact suffering from an acute infectious disease which without proper prophylaxis may extend to other puerperal women under the care of the same physician or nurses. W. L. HANER.

5. Leopold Meyer: The Operative Management of Extra-uterine Pregnancy (Zeitsch. f. Geb. u. Gyn., XV., 1, 1888).—M. reports a case of extra-uterine pregnancy in which he was called to attend the patient after the sac had ruptured, producing symptoms of collapse. The diagnosis of extra-uterine pregnancy having been made as opposed to hematoccele from other cause, it was determined to adopt expectant treatment. One month later, the physical signs showed that the fetus was still alive and increasing in size, and so laparotomy was determined upon and a nineteen-weeks-old fetus removed. The author considers that the operation was proper under the circumstances; the researches of Dr. Harris given in Am. Jour. Obs. last year (page 1,154) with accounts of twenty-seven laparatomies in the later months of pregnancy showing that the great majority of the children died in a few hours, and those who lived were deformed. The advantage to the child of procrastination does not at all compensate for the danger to the mother. W. L. B.

ITEM.

We are sorry to have to announce that the publication of the Gazette de Gynécologie has been provisionally suspended, owing to the illness of its editor, Dr. Paul Ménière.
What is the normal posture for a parturient woman?

By

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It will be observed that the title of this paper is stated interrogatively: "What is the normal posture for a parturient woman?" Probably the most prudent and truthful answer to this question, at the present state of obstetric science, is: We do not know. But our inability to define an exact reply to this interesting question arises, I think, in part (as is the case with many other scientific inquiries) from a defective construction and want of exactness in the terms of the question itself. Every one knows that during the first stage of labor the woman is restless, and instinctively changes her position frequently; and every one, I suppose, permits and even advises her to obey this instinct. We let her sit, stand, walk, recline, etc., during this stage, as she may desire. On the contrary, during the third stage of labor, hardly any obstetrician would advise or

1 Read before the Washington Obstetrical and Gynecological Society, January 4th, 1889.
permit this liberty of movement, but rather insists that his patient should maintain the recumbent posture. With regard to the middle or second stage—that immediately preceding and attending delivery of the child—most but not all obstetricians agree that the woman should be recumbent, some advising the dorsal decubitus, while others prefer that she lie upon her side. It is to this second stage of labor that the question I have proposed presents its greatest practical importance. It is not, however, without interest, nor is it so far certainly settled as to be beyond debatable ground, with relation to the third stage of labor; and the reasons for our indifference to the matter during the first stage ought to be definitely stated and understood. It will therefore be necessary to recon struct the question so as to inquire: What are the normal postures for parturient women during the three stages of labor? Nor does this statement present the conditions of the question with sufficient exactness; for it carries with it the implied but unexpressed reservation that the cases to be considered are those of natural labor; and to define what are natural cases and what are not is anything but easy. What we really want to know is, How posture, and changes of posture, may be best utilized during the several stages of the different cases of natural labor among the different kinds and races of women, as met with at the present day, so as to render parturition safer, shorter, and easier.

This inquiry has engaged the attention of obstetricians in all ages; it has given rise to an extensive and elaborate literature, the most recent portion of which, containing the recorded conclusions of the latest and highest obstetrical authorities, abounds with differences of opinion. In fact, the question is scarcely any nearer being settled than it was centuries ago. It certainly will bear, and, I think, in the interest of suffering women, it demands, further consideration. I am convinced that thousands of our parturient women at the present time are made to suffer hours and hours of miserable agony during labor which might be prevented, or at least materially abridged, by suitable changes of posture, without any additional danger or detriment to them or their offspring.

which he refers, we scarcely need any further accumulation of historical records to prove that among different peoples, in different parts of the world, almost every posture we can imagine has been and still is resorted to by one or other of them. But how can this knowledge of different peoples—interesting and valuable as it is—be made of practical avail among our own people at the present time? The postures assumed in labor by more or less savage, or at least uneducated, races, are usually thought to be "instinctive" or purely "natural." But if we ask which of these instinctive positions is to be selected in a given case of labor at the present date and among our own highly civilized women, it will be difficult to decide. Moreover, it must be remembered that among barbaric races who possess a language, a posture once adopted becomes a custom, and may be perpetuated, or at least continued from one generation to another, by means of oral advice or instruction, just as surely as our American and English textbooks impart to the rising generation of medical students the disposition to select, respectively, the "American" or "British obstetric position." The dictum of some old woman's authority among a tribe of Indians may be no less potent with them than that of a Lusk or Leishmann is with us. It is in each case education. It may or may not conflict with instinct. Thus, then, at best, the customs of semi-civilized or barbaric peoples do not necessarily or certainly present us with a purely instinctive or truly natural posture for labor.

Dr. Engelmann, in his ethnological study of this subject, develops the following conclusions:

1. "In the ordinary labor case, which is a purely mechanical process, the patient should be given greater liberty and should be permitted to follow the dictates of her instinct in regard to her movements, more freely than is now customary." I fully indorse this conclusion, except in so far as it regards labor as "a purely mechanical process," which it certainly is not. His second conclusion, which nearly resembles the first, can scarcely be questioned. It is as follows:

2. "In the earlier stages of labor the parturient must be guided in her actions and in the position assumed by her own comfort and by the dictates of her instinct." His third conclusion is:

3. "The care with which the parturient women of uncivil-
ized people avoid the dorsal decubitus, the modern obstetric position, at the termination of labor, is sufficient evidence that it is a most undesirable position for ordinary cases of confinement; and I am convinced that the thinking obstetrician will soon confirm the statement not unfrequently made by the ignorant but observing savage, by negro and Indian, that the recumbent position retards labor and is inimical to easy, safe, and rapid delivery.” This third statement requires serious consideration, but I think it deserves a qualified indorsement. Before discussing it, let us set down his fourth and fifth conclusions, which are as follows:—

4. “In ordinary labor cases, the expulsion of the child should be expected in an inclined position: kneeling, squatting, or recumbent, in bed, on the chair or lap, as is done by the great majority of uncivilized people.”

5. “Of these positions the semi-recumbent is the most serviceable, and should be adopted as the obstetric position in all ordinary labor cases; it is preferable to the kneeling or squatting.”

It should be noted that Dr. Engelmann divides the numerous postures into three great classes, viz.:

1st. Perpendicular or upright position, standing, suspended, etc.
2d. Inclined; this class including many postures, among them being the semi-recumbent one which he recommends.
3d. Horizontal or recumbent.

In other words, the body of the woman may be vertical or horizontal, or midway between these two, at an angle of 45°—this last being the semi-recumbent position Engelmann prefers.

In the course of his paper Dr. Engelmann quoted Dr. Henry F. Campbell, of Georgia, as follows: “I will say that I regard what may be called the obstetric position, as generally practised in this country, recumbent on the back, as not only the most unnatural, but the most disadvantageous, and therefore the most unphilosophical; it is the position which, above all others, deprives the woman in labor of the advantages which gravity would give us in promoting expulsion; then the position almost nullifies the power of the abdominal muscles, leaving the almost unassisted uterine muscle to effect expulsion. The English method, with the body bent forward and the thighs
drawn up, is much more advantageous in so far as the abdominal muscles can act better."

During the discussion following Engelmann's paper, Dr. Campbell related the case of a woman who, in obedience to her physician, and contrary to her own expressed, instinctive wish, was kept in bed during labor for sixty hours; at the end of this prolonged dole of agony, no progress being apparent, her request was acceded to; she was allowed to sit up, and immediate delivery followed. It may be added that this woman was sixty years of age, and had previously given birth to seventeen children. In three other cases, when it was thought necessary to apply forceps, a similar change of posture secured rapid delivery without difficulty, and without instrumental aid.

During the same discussion, Dr. John C. Reeve said: "It is a matter of observation to me that, with all the different appliances to be used during labor, when it comes down to a hard pull, the woman will get upon her back; not in a flat, but in a semi-recumbent position, with her back and shoulders supported, her thighs separated," etc. . . . "I was brought up to put the woman to be confined upon her left side, in the English position, but I soon found that that position would be avoided, and the woman would turn upon her back, because thereby she could use her force to the best advantage."

Dr. Fordyce Barker said: "Most of us were in early life taught to place the woman during labor upon her left side. I early gave this position up, and during the last thirty years have always allowed the patients to assume the position which their instincts desired, and I have instructed students to do the same." Further on, however, Dr. Barker very properly qualifies this statement, with the remark that it is not in all cases that the instincts of women are of more value than science, citing, in illustration, cases of right or left obliquity of the uterus, where instinct would scarcely induce a woman to lie respectively upon the left or right side, while science would do so.

Dr. Theophilus Parvin, without expressing himself conclusively as to the choice of any one position, observed that we should discriminate according to the stage of labor, and also as to the posture during the pains and that between them. He further suggested the question as to the "comparative liability to rupture of the perineum with the woman lying upon her back and upon her side," quoting Schroeder to the effect "that
rupture is more likely to occur when the woman is lying upon her back."

Dr. A. Reeves Jackson thus expressed his views: "Thirty-two years ago, I began the practice of medicine in the northwestern portion of Pennsylvania, a region of country at that time occupied chiefly by Germans. Their fashion for delivering women was either upon the knees of the husband or while the woman was upon her own knees, and leaning forward upon a chair or bed. As to whether it was instinctive or not I do not know; but I believe it was the result of previous education, which I could never succeed in breaking up. Whether instinctive or otherwise, it was a useful custom; for the woman did get out of bed, and I satisfied myself that they were right, and that delivery was completed quicker and as safely as when they were delivered upon the left side. My opinion is that women, if left to take an instinctive position, will take that thought by Dr. Reeve to be the proper one" (semi-recumbent on the back), "or that mentioned by Dr. Parvin, namely, the squatting position, stooping as though they intended to accomplish the act of defecation."

I have inserted these brief quotations from the gentlemen who discussed Dr. Engelmann's paper before the American Gynecological Society in 1880, because they are the utterances of representative American obstetricians—men who are leaders, teachers, and writers, and whose opinions carry weight and authority. While they all appear to dislike the English position upon the left side, and prefer, for the most part, the customary American position upon the back, any one who will take pains to read the whole of the discussion will see that there is anything but unanimity of opinion as to the preferable position and the reasons for its selection. The matter is still unsettled: at this advanced age it scarcely ought to be so.

And while what I propose to say, on my own account, may serve to unsettle it still more, so much the better if out of the débris of old opinions we can reconstruct a better edifice upon a more solid and safer foundation.

Now of the various methods that have been resorted to in studying this matter, we may say that it has been considered anatomically, physiologically, philosophically, ethnologically, mechanically, clinically, and experimentally. I shall not be able in this paper to follow out all these various methods separately.
I must, however, first refer to the experiment, many times repeated by different observers and always with the same result, viz.: that of taking a young, healthy, civilized woman, pregnant for the first time, quite ignorant of the process of labor, and totally uninstructed as to what she should do during its continuance. Such a woman has been placed entirely alone in a room containing chairs, stools, sofas, cushions, beds, etc., with every opportunity to use any, all, or none of them, as she might desire, and to assume any position or positions she might wish. On being watched, it was observed that she behaved, in each of the experiments, exactly as a man or any other person would do when suffering from a severe attack of colic. Finding no relief in one position, she would get into another, and so on continually changing her posture, simply following the instinct of seeking relief from pain. Of fifty such experiments recorded by Schütz, "thirty-two (over half) occupied abnormal (?) positions: fourteen standing, sixteen crouching or squatting, two kneeling." Of one hundred other such cases, cited by Dr. Cohen v. Baeren, of Posen, fifty "occurred in unusual positions: thirty standing, eighteen crouching or squatting, and two kneeling" (Trans. Am. Gynecol. Soc., 1880, p. 176). In one such experiment by Naegele, "the girl took all possible positions, and was finally delivered tossing about on the bed." One of Dr. Engelmann's correspondents from the West Indies wrote: "There is no natural position in labor for the native women any more than for a man with colic or a West India dry belly." (What this latter may mean I do not know.)

If instinct is to be one of the factors (and I think it ought to be) in determining our opinion as to the best posture for delivery, these experiments among uneducated women of our own race and time possess more than ordinary interest, and should certainly have as much, or even greater influence in shaping our conclusions than the customs of uncivilized peoples in whom the ingredients of education—or rather instruction and advice during labor—had not been eliminated.

While the women who were the subjects of these experiments are said to behave just as any other person would while suffering from colic, it may be useful here to note that a labor pain is colic—uterine colic—this, and nothing else. Anatomically, physiologically, etiologically, and in every essential par-
ticular, a labor pain is just as truly a colic as is the pain of renal, hepatic, or intestinal colic.

In each case the suffering is produced by an involuntary, intermittent, peristaltic contraction of a part of the muscular walls of a canal—whether it be the ureter, the bile duct, the intestinal canal, or the reproductive canal. It is caused in each instance by the presence of something in the canal to be expelled—either calculi, flatus, food, feces, or fetus respectively. The physiological object of the process is the expulsion of the passing body. Instant relief follows such expulsion. In each case the peristaltic contraction of the tube is assisted by tenesmic contraction of the abdominal walls and diaphragm. In each case we see the same symptoms of nausea, vomiting, shudderings, and even the same mental condition of despondency. No wonder that women, when let alone during labor, behave as if they had colic! They have it. This analogy will appear the more striking if we consider parturition in those animals who bring forth a number of young at one time—the sow for example—whose uterus consists of a convoluted tube, or rather two tubes, one on each side (continuous with the Fallopian tubes), and which converge and meet near the vagina. The fetal pigs, lying in different portions of this canal, are expelled, when labor comes on, one after another, much in the same manner as so many fecal masses are expelled from an intestinal canal. The reproductive canal of the human female begins at the fimbriated extremity of the Fallopian tube and ends at the external orifice of the vagina. All portions of this canal are provided with a muscular coat which is continuous from one end to the other, that part of the tube constituting the uterus having its muscular wall more highly developed than the rest. If the ovum happen to be arrested in the Fallopian tube—tubal pregnancy—the muscular wall in that part of the canal will develop into a sort of miniature uterus, which, when it has grown as far as it can, will begin to contract, and here again occur the intermittent, peristaltic, muscular motions which the unfortunate patient describes as "colicky pains."

To what extent will the recognition of this analogy between labor pains and colic in some other canal help us in deciding the question of posture during labor? If it have any practical bearing upon the question at all (and I do not wish to lay great
stress upon it), it would seem to suggest the following inquiry: Why should a woman suffering from the uterine colic incident to labor be advised or instructed to remain in any one given posture, while no such advice or instruction is considered necessary for patients suffering from other kinds of colic? The inference is, and I think the correct reply to the inquiry is, that in a healthy woman, in normal labor, there is no good reason for such advice or instruction. And this statement foreshadows, and, with the qualifications to be presently noted, actually expresses my own conclusion with regard to the whole matter.

During the remainder of this paper, I shall omit entirely any further mention of the third stage of labor—placental delivery, etc.; this requires separate consideration. The chief practical bearing of the question before us relates to the promotion of speed, ease, and safety in delivery of the child.

Now, if we construct two opposite statements, one, fairly representing (as far as it may be possible to do in a few words) the orthodox teaching of the present day, and another directly contrary to it, I believe the latter, on the whole, would be better than the former. For example, let us now attempt to express the orthodox method as follows:

1. It is advisable that a woman, during the second stage of normal labor, and during the latter part of the first stage, should remain upon her left side. Or (to try again),
2. It is advisable that a woman (during the same said stages) should remain upon her back. Or (once more),
3. It is advisable that a woman (during the same said stages) should remain semi-recumbent, either upon her side or back.

One or other of these statements, or all three taken together, may be said to represent the orthodox teaching and prevalent practice of the present date among civilized peoples.

Now, in contradistinction to this orthodox teaching, let us place the following heterodox statement, viz.:

It is unadvisable that a woman, during the first and second stages of normal labor, should have two consecutive pains in exactly the same posture.

This heterodox statement is erroneous (as I will explain presently); it oversteps the mark; it is too radical; but it is in the direction of reform, and, I candidly believe, comes nearer the truth than any of the preceding orthodox state-
ments. Nearly all the testimony at our disposal indicates that a continued oneness of posture is worst of all. The real indications intimating the desirability of changing the woman’s position would seem to be, chiefly, these: 1st, Instinctive desire; 2d, slowness or arrest of progress in the passage of the fetus; 3d, uncontrollable despair and despair on the part of the patient—this third phenomenon being usually a coincident consequence of the second.

With relation to the instinctive desire to alter her position, it may or may not be present; or, being present, it may or may not be expressed. Nay, the woman, even when asked or advised to change her posture, may refuse, and will often state her reason, viz.: that it hurts her to move. But here we must remember, this inability to move without pain may be, and I believe often is, the result of having already remained continuously, for a considerable time, in one posture. Even the muscles of a healthy man will become sore under the same circumstances. Who of us, in stooping over or kneeling beside a low bed, during a protracted forceps or version operation, has not experienced some pain and difficulty in rising to the erect posture? And the muscles we have used and strained during the operation—are they not sore and stiff the next day, so that we cannot move them without pain? Furthermore, this “next day” with us is sometimes the same day with her, for her labor is not always ended in twenty-four hours. No wonder, then, that the “instinctive desire” to move is often absent.

When this desire is present, it may still remain unexpressed from the woman obediently following the advice of her physician or nurse; or from her conviction that she must conform to what she knows to be the usual custom. In some cases, however, the impulses of nature will assert themselves, and, in defiance of all authority and custom, the woman will change her posture, with the result, in many instances, of speedy delivery, as we have already seen.

Another indication for postural change, I have said, is retardation, or actual arrest, in the transit of the fetus. An hour goes by—perhaps hours—and we can hardly discover any perceptible progress in the descent of the presenting part. The woman, too, appreciates that her labor is in vain; she knows well enough that something is wrong (though we deny it), and
for a Parturient Woman?

that her pains are not doing "one bit of good." Then comes her mental demoralization and peevishness, despair supplanting hope, which requires all the ingenuity of the obstetrician to correct, by the construction and expression of new phrases of encouragement that eventually exhaust all the variations of which his vocabulary is capable. When, under these conditions, and no doubt with the best intentions, we tell the woman that she is "doing well," and that "everything is right," I believe we lie under a mistake. It is not right, nor is it in accord with the physiological course of a normal labor, that a continued succession of pains should occur without any perceptible result in the progress of the passage of the fetus. It would be nearer the truth to say that no single pain should occur, after the labor is well advanced into the first stage, without the woman instinctively recognizing some appreciable progress.

Now, if we ask whether a change of posture can remedy the difficulty by converting a "standstill" labor into a "progressive" one, the answer is that it has done so, in hundreds of cases, and in all parts of the world. And if we study parturition (1) as a mechanical process, and (2) as a physiological process, it will not be difficult to see why it does so.

Considered mechanically: we must appreciate that so long as the woman remains in the same position the impulse of the expelling force will remain in the same direction. Now, if the parturient passage were a perfectly smooth, rigid cylinder (like that of a steam-engine, or of a hypodermic syringe), and the fetus were an equally smooth, rigid, cylindrical body (like the piston of those devices), a force applied always in the same direction, provided it were approximately right, would propel the "passenger" through the "passage," as well in the case of the woman as in that of the engine, etc. But the mechanism of labor is not so simple. The parturient passage is a curved canal, whose walls abound with elevations and depressions, whose surface is elastic over certain areas (the sacro-sciatic and obdurator foramina, for example), firm and inelastic over others. The presenting part of the fetus (whatever it may be) presents similar inequalities, similar elevations and depressions, and similar more elastic and less elastic surfaces, etc., etc. In so complicated a process, it is quite easy to appreciate that an expelling force com eon in one given direction would be, of all things, the least likely to promote the "passage" of the "passenger."
Should the line of force be ever so little in error, it might well continue for hours, and "not do one bit of good;" while ever so slight a variation from, or correction of this erroneous direction would, in various ways, serve to ease the passing body over some point of resistance in the passage—to glide a firm projec-
tion on the one into some elastic depression on the other—and thus allow the arrested mechanism to proceed. It is only necessary to add that *any change in the woman's posture*, carry-
ing with it also a change in the direction of gravitation of the uterine contents (be this little or much), *must necessarily vary the direction and distribution of the expelling forces to some degree*. I have carefully watched the process of labor in a number of the domestic animals. The only instance in which I have found the mother to *remain in one posture* during labor is that of a hen laying her egg. But let us note that the egg is a perfectly smooth, firm, symmetrical, and almost geometrically perfect figure: its shell is uniformly inelastic; it presents no irregular elevations and depressions, some of which are hard and some soft; and thus the line of direction of the expelling forces does not here need variation, by change of posture.

Who of us in executing those simple mechanical processes of passing a key into a lock, a catheter into a bladder, a forceps blade into the vagina or uterus, or in trying to make a nut engage on the thread at the end of a screw, would use continuous pressure exactly in one direction when we found it was doing no good? None of us would do so; but, on the contrary, we would, almost automatically and without thinking, *vary the direction of our pressure*. So should it be with labor, under like circumstances.

If (2) we consider parturition *physiologically*, we must appre-
ciate that the *forces of labor*, viz., the contractions of the uterus, and of the abdominal walls and diaphragm, *ought not to be wasted, but economized*. Which of these results is the more likely to follow uniformity of posture during labor? Evidently *waste*. There is no surer or quicker way of exhausting the power of a muscle than by making it repeat, over and over again, *exactly the same contraction*. The gymnast with

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1 Nor is this absolutely true of her either, for during some part of the *last minute* just before the egg is extruded, the hen rises and stands upon her feet.
his dumb-bells knows this. Even the horse pulling a load along an absolutely level road will tire sooner than one who pulls the same load up and down moderate declivities; because in the latter instance the action of the muscles is varied; in the former the successive muscular contractions are exactly repeated without variation. It is only necessary to add, that it is impossible for a woman in labor to change her posture ever so little without varying, in some degree, the kind, amount, and direction of the contractions performed by the numerous muscles participating in the process. If she remain in exactly the same posture, and especially when, also, no appreciable change occurs in the progress of the passage of the fetus, then the acting muscles must inevitably repeat, at every successive pain, exactly the same kind of contraction, and thus tend to become exhausted. Consequently, let us not permit our women during labor to remain in exactly the same posture.

On several occasions during the last few years (see Am. Jour. of Obstet., N. Y., April, 1881; Trans. Am. Gynec. Soc., 1886, p. 485; Jour. of the Amer. Med. Assoc., Sept. 24th, 1887, p. 398; Kansas City Medical Index, May, 1888, p. 183), I have called attention to the utility of a semi-erect and sitting posture in expediting delivery in cases of dystocia, due to short or coiled funis, and in which the postural treatment unquestionably hastened the termination of labor. Subsequent observations give me no reason to change my opinion on this matter; quite to the contrary. These observations, however, cannot detract from the utility of postural treatment in other and less serious cases of delay; the efficacy of the treatment in one set of cases rather tends to confirm its efficacy in others.

One of the difficulties in the practice of this treatment consists in deciding what particular posture (among so many that are possible) is best, at each particular stage of the labor. At present we may not be able to meet this difficulty. Not until the mechanical and other influences of posture have been made out with more scientific precision shall we be able to meet it. A good deal will depend upon what is in fault during labor that retards progress. For example, let us suppose a case in which the transit of the fetus is arrested because "rotation" is delayed, or fails to take place when it should. All of us have seen such cases, with long delay; when, all at once, and with one sweep, the occiput swings round to the pubis, and rapid delivery fol-
lows. In such cases I think it quite probable that the delayed rotation might be hastened by a kneeling posture, the woman resting her buttocks upon the heels, as is so common with the native Mexican, who, as Dr. Engelmann tells us (Gynec. Truns., 1880, p. 265), in the interval between the pains lets herself down, her buttocks resting upon her heels; during the pains she raises her body by clinging to a rope. In the case of a negro woman, observed by Dr. Campbell in the kneeling posture (ibid.), "during the pain her body would move backwards so that her buttocks would rest between her heels."

I have demonstrated upon several cadavers of women (Amer. Jour. Obstet., May, 1887, p. 513) that when the lower extremities are bent backwards, as in a kneeling posture, the heels come exactly over the sacro-sciatic foramina, and when pressed upon these foramina will cause a fetal head placed obliquely in the pelvic cavity to rotate into the antero-posterior direction—occiput to pubis, etc. Should it be demonstrated that a kneeling posture will do the same during life, it would clearly indicate the expediency of resorting to this position in any case where tardy rotation was found to be the cause of delay. This example (whether of any real practical value or not) illustrates the kind of knowledge which is required (but which is still deficient), before we shall be able to define, with anything like scientific precision, the special postures that will be most useful for special causes of delay during labor.

The same kind of knowledge, and its utility, is again evident in the cases mentioned by Dr. Fordyce Barker (previously cited), viz.: those of pronounced lateral obliquity of the uterus, and in which science places the patient in such a posture as will tend to restore the womb to its normal direction.

So again in those very common cases where the anterior lip of the uterus is caught between the head and pubic bones, it is probable relief of this complication would follow placing the woman in a squatting posture, the fundus being thus thrown forward, while the anterior surface of the thighs pressing forcibly upon the anterior and lower part of the abdomen, would force the presenting part of the child and the lower segment of the uterus farther backwards and away from the pubic walls. (I suggested this method in the first edition of my "Manual of Obstetrics," 1882. See third edition, page 146.)

Again, I repeat, these instances illustrate, at least, one im-
important branch of that kind of information which is necessary before we can define the different postures suitable for different causes of delayed labor.

Furthermore, if we ask ourselves what particular postures are most desirable to expedite labor during the several stages in the mechanism of occipito-anterior, as compared with occipito-posterior positions of head presentations; and if, further, we apply the same inquiry to the different positions of breech and of face presentations, it must be acknowledged that this field of study presents a desert of ignorance with scarcely one "tree of knowledge" to vary the monotony of its barrenness; and yet from what we already know concerning the influence of posture in modifying the direction of the forces of labor, there is every reason to hope that this as yet uncultivated field might be made fruitful of the best results.

Nay, I think it not impossible that even transverse presentations might be converted into normal ones—spontaneously rectified—by a squatting or kneeling posture, the thighs of the woman, one on each side of the abdomen, pressing each end of the fetal ovoid antero-laterally, and thus getting the oblique position of the child vertical, exactly as the hands of the obstetrician do so, by "external version."

The comparative frequency of unrectified transverse presentations among those peoples who do, and those who do not observe a squatting or kneeling posture, would, with this regard, constitute an extremely interesting inquiry, concerning which, however, there are at present, so far as I am aware, no reliable data.

In conducting such an inquiry, it should be noted that women who do not squat during labor, may have assumed this position, and repeatedly, during pregnancy while defecating and urinating, and may thus have rectified a cross-presentation weeks or months prior to delivery. This vitiating element would require to be eliminated.

In view of our present limited knowledge, therefore, changes of posture during labor can scarcely be more than tentative experiments; but admitting this, and considering what I have previously said, I think, speaking very generally, and referring to normal women, in normal labor, that in so far as speed, ease, and safety are concerned, we may properly resolve our ideas into the following crystallized statement, viz.: Long continued

1 I am now preparing a paper on this subject for publication.
uniformity of posture is the worst; frequent mutation of posture is the best.

There may be exceptions to both statements, and with relation to the latter one there are cases and conditions, frequently observed, in which change would be undesirable, viz., those in which the labor, from having been slow, is progressing rapidly; in which the peevishness of the woman has changed to content, and in which she often begs that she may not be touched, but let alone. In such a case let her alone, no matter what posture she may have assumed.

Having now presented some of the reasons why change of posture during labor is desirable, let us next inquire what are some of the reasons for adopting the opposite modern practice of maintaining uniformity of posture? First, it is education: we do as our teachers and text-books have taught us: we blindly follow the dictum of authority. Second, it is tradition: our teachers themselves are influenced by traditions. Obstetrics is weighted down with them. A recent author (Parvin, "Sci. and Art of Obstet.," p. 534, quoting Lorain) tells us that milk-fever once thought to be common, is now spoken of as "a vague tradition which does not rest upon classic observation." The same author (p. 535) observes: "The practice which old obstetricians had of preventing a woman's sleeping during the first hours following labor lest flooding might occur, had no just foundation either in reason or experience." We have only recently escaped from the traditional "tea and toast" diet following labor. The traditional "nine days" of recumbency after labor is still observed. And though some of us have striven to do away with the burnt greased rag to the funis, and with the tight bandage round the infant's abdomen, those traditional abominations are still not entirely abolished. Who would be surprised if the alleged desirability of keeping the lying-in woman in one posture, should also turn out to be another vague tradition having "no just foundation either in reason or experience," and not resting "upon classic observation?" Third, it is fear. We are afraid to change the woman's posture—afraid that something might happen to her. We know not what this something is likely to be, but we fear it. If anything should happen disastrously, we also fear that our reputation would be injured. The woman, the nurse, and the neighbors would inevitably ascribe the undesirable occurrence to the heterodox posture.
The *post hoc* would be invariably called a *propter hoc*. But now (leaving out our own fear of getting into disrepute with our patients), what are the real things—accidents or misadventures—that are to be feared by change of posture? Upon what foundation, either of reason or experience, do these fears rest? The worst that we can fear (if our fears were just) ought to have occurred in those women who continually changed their position during labor, and who were delivered in almost every imaginable posture. But did these dreaded occurrences take place? By no means. In the experimental cases by Schutz and Cohen von Baeren, previously mentioned (see p. 343), while accidents to the child, such as rupture of the funis; bruising, extravasations, and fractures of the skull, occurred in a certain proportion, when delivery took place *standing* (and which the obstetrician could, of course, easily prevent by receiving the child instead of letting it fall), yet, even in the standing posture, accidents to the mothers did not occur with any unusual frequency. With relation to Cohen v. Baeren's cases, it is remarked that if we disregard the disadvantages to the child which originate from delivery in the standing posture without sufficient assistance, the disadvantages to the mother do not appear to be so great as is generally believed. Bruising of the external parturient structures, lacerations, hemorrhages, and inversions of the uterus, should, presumably, be produced more easily in the upright position. Yet we are told that while subsequent examinations were not always made carefully, what were made went to show that these accidents were neither frequent nor marked. Pronounced lacerations and inversions would have been apparent even on the most superficial examination. It was, therefore, concluded that the apprehended accidents were either not so marked as one often imagines, or that they were prevented by the usually small dimensions of the fetus.

With respect to the comparative *duration* of labor in these cases, among one group of 50, in four the duration was not given. In 12, it was several hours—in a few of these, even days. In the remaining 34, the delivery is designated as "short" or "quick." In another group of 45 cases, in 25 the labor lasted only a short time—at the most, a few hours. In 12 cases, for a longer time and with great pain. The remaining 8 cases were incompletely described. The reasons alleged for the recognized shortness of the labors were as follows:
1. Generally slight dimensions of the fetus.
2. The strong constitution of the women belonging to the working classes.
3. The unusual positions, namely, the cowering and standing which, in the majority of cases, serve to hasten labor.
4. The psychic influence of anguish, fear, etc., under which the majority of those secretly (?) confined find themselves.

In these experiments, therefore, we find the anticipated accidents did not occur (even in the erect posture) and that the average duration of labor was short.

The cases reported by Engelmann and others, of delivery in unusual positions, are not attended by those accidents, though many of the cases occurred among civilized peoples. The isolated cases with which we ourselves occasionally meet, of delivery in a heterodox posture, are again not attended by the misadventures that we feared. And yet these groundless fears prevail and influence our practice. Engelmann, speaking of the different views entertained by the Fellows of the American Gynecological Society (p. 202, Trans. of 1880) in regard to the advantages and disadvantages of a kneeling posture during labor says: "To one it seems physiologically correct, and appears practically to favor the expulsion of the child, whilst it is frowned upon by another as liable to be followed by hemorrhage. We, however, do not hear of this as a frequent occurrence among the Indians, where the position is so common; in fact, we neither hear of this nor of any other accident consequent upon labor, not even of prolapse, which might be supposed to follow."

True, a little further on (p. 205), Dr. E. refers to the experience of Dr. Willis P. King, of Sedalia, who had seen a number of women of the Pennsylvania German stock delivered while kneeling by a chair, but having observed one woman flood almost to syncope after delivery in this position, he condemned it severely. We may well inquire here, was this condemnation just? Who of us has not seen flooding, not only almost to, but beyond syncope, in the recumbent posture? It is often the case that a single instance of disaster following a special method of practice will suffice to condemn it for a long time to come, even through the proof of any etiological relation between the two be altogether wanting.

To enumerate, without enlarging upon, the reasons given by
Engelmann, for the present modern practice of delivering women in the recumbent posture, we find them to be custom, apparent convenience, prudery, false modesty, obstetric law, and obstetric fashion, but not reason or obstetric science. (Trans. Gynec., p. 259.)

At the same time, there are two sides to every question, and the views I have here presented must not be rashly adopted in practice without suitable and prudent discrimination. Necessity compels us to deal with women as we find them. Now it happens, unfortunately, that many of our lying-in women, in the higher walks of life, are so little accustomed to muscular exertion and seem to have so limited a fund of nervous force, that the work of a few hours' labor is sufficient to exhaust in a great degree the energy of their nervo-muscular apparatus. They soon become tired out, and in this condition are quite incapable, by themselves, of assuming either a kneeling, squatting, or sitting posture. They are obliged to lie down. But the same thing is observed among uncivilized women in certain cases; thus, as Engelmann tells us, sitting is stated to be the "usual position among native Australians, the weak women only lying down when in labor" (pp. 194, 195). So again he says: "The Dakota woman assumes a kneeling position during labor, unless extreme weakness prevents" (p. 210).

With regard to our own women, we may well pause to inquire whether the early exhaustion so frequently observed may not, in part, be produced by maintaining the patient in one position (as previously suggested), thus retarding progress and leading to the emotional despair, which, as it were, "puts down the brakes" upon the force-evolving function of her cerebrospinal engine.

Theoretically, it would seem to be proper with these feeble women to observe recumbency between the pains, while during them the head and shoulders should be lifted and supported from behind, and the hands pulled forward by assistants, so as to raise the body to the semi-recumbent position or something above it. In practice, I have tried this method with a few cases, and, as I believe, with the result of rapidly terminating a labor that would have lasted several additional hours, and perhaps required forceps, had the change of posture not been adopted.
Besides weakness and exhaustion, there may of course be other deviations from a normal state which must be considered by the discriminating judgment of the obstetrician in selecting any one posture, or change of posture, in labor. As before specified, my remarks apply to normal women in normal labor. And in so far as this is concerned, further argument of the question seems to be unnecessary. The evidence from all sources—whether anatomical, physiological, mechanical, ethnological, experimental, or clinical—tends to support the proposition that long-continued sameness of posture is detrimental, and frequent change of posture beneficial.

What the obstetricians of the present age appear to need in this matter is not argumentation but exhortation. In practice, most of us give no consideration at all to the question of posture. We are content that the women eventually get through in the usual way; we do not, apparently, care how much or how long they suffer, though all of us are glad enough when the labor is over. We do and must sympathize with them. It is contrary to the natural gallantry of our manhood to hear the pleading appeals of a woman in distress and not to be able to help her, without bitterly appreciating our impotent and abnormal situation. And yet we sit in placid indolence by the bedside, and, with an ill-assumed indifference, allow some poor creature to suffer the intensest agony, hour after hour in one posture, when all the evidence at our command, from whatever source or direction it may come, goes to show that judicious changes of posture would rapidly terminate both her sufferings and our own, and in a most favorable manner.

In reply, therefore, to the inquiry constituting the title of this paper, we may state:

1st. There is no one posture that can be normal for the parturient woman.

2d. The continued maintenance of one posture wastes and exhausts the forces of labor, interferes with the normal mechanism, and adds to the duration and intensity of the woman’s suffering.

3d. Exactly opposite results are produced by proper changes of posture.

4th. The indications for change are: instinctive desire for it; arrest of the mechanism of labor; emotional discontent, peevishness, and despair.
Douglas: Report of an Enlarged Spleen. 357

5th. The normal mechanism of labor being at present imperfectly understood, and the influence of different postures upon this mechanism, during the several stages, of the several "positions," of the several "presentations" being unknown, the selection of given postures for given conditions cannot be defined without further study.

CLINICAL AND POST-MORTEM REPORT OF AN ENLARGED SPLEEN, DIAGNOSED AS UTERINE MYOMA.

BY

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Thanks to the courtesy of my friend, Dr. James B. Stephens, of this city, I am permitted to present this report.

Ada L., age 26, an intelligent, bright mulatto, of robust physique and apparently in vigorous health, married four years, the mother of one child two years and nine months old.

She was born and lived in Memphis, Tenn., up to the time of her marriage. She suffered from cholera in 1873, and yellow fever in 1878; with these exceptions she enjoyed ordinary health until she was twenty-one years of age, at which time she suffered from ague at irregular intervals for a period of about two years.

At this time, or shortly after, she consulted a physician for a lump in the side; she was told that it was an enlarged spleen. This tumor, variable in size, would, after excessive exercise or imprudence on her part, enlarge and become painful for a few days; it would then subside, diminishing to merely a perceptible lump located in the left iliac region. This change in the size of the tumor occurred usually at the monthly period.

Since the birth of her child, she has at times suffered from leucorrhea, pelvic pain, and tenderness.

About one year ago, or eighteen months after her labor, menstruation was re-established, and continued at regular intervals and normal in quantity to November last. She has not menstruated since that time. She marked the changes in the tumor and positively asserted it was decidedly larger at the menstrual periods.

The woman with the above history was first seen by Dr. Stephens on January 13th last. He found her much prostrated,
with pulse 130, temperature 100°, skin bathed in cold, moist sweat, nausea and vomiting persistent. She complained of intense pain in abdomen. Upon examination, the abdomen was found distended by a tumor which filled completely the lower and middle portions of the cavity, and extended upwards almost to the ensiform cartilage.

The upper border could be distinctly outlined; pain and tenderness were so great, however, that the doctor did not think it advisable to attempt a thorough examination. Learning from her that she had previously suffered these acute attacks, which were always relieved by an opiate, he administered one-half grain of morphia hypodermically.

Leaving her in comparative comfort for the night, he saw her again the following morning. The hypodermic had given but temporary relief; she had passed a night of great suffering, with no improvement in her local or general condition. It was observed at this visit that she was lying on her right side; previous to this attack she found comfort in the recumbent posture only on her left side or back.

"The tumor seemed growing rapidly;" nausea and vomiting incessant; morphia in large doses was again resorted to. The doctor visited her again at 6 p.m. of the same day, and found all the symptoms aggravated.

Recognizing the case as an exceedingly grave and most peculiar one, he did me the honor to invite me to see her with him at 9 p.m. On our arrival the doctor remarked upon the rapid increase in the size of the tumor. There was great prostration, frequent and weak pulse.

She was sufficiently influenced by morphia to permit an imperfect but more or less satisfactory examination. The sound or speculum could not be used, and we were much limited in our methods of diagnosis.

The abdomen was distended to the size of a seven months' advanced pregnancy, by a hard, inelastic, immovable tumor, resting close to the abdominal parietes. The area of dulness marked the outlines of the tumor from the pubic symphysis, filling each iliac region, bulging in a hard ridge or boss a little to right of median line, and extending upwards to ensiform appendix. The extreme lateral regions of the abdomen were resonant upon percussion.

The tumor was most prominent in the right iliac region.

Palpation failed to give any evidence of fluid contents.

Vaginal examination revealed a retroflexed fixed uterus. Rectum impacted with feces. To the front and on each side of the uterus, the pelvis was filled by a mass of firm consistency, inelastic and smooth. We could not, with any degree of certainty, locate either tube or ovary. With this limited evidence before us, our diagnosis was of course doubtful. The only indisputable fact upon which to make a diagnosis was the existence of a non-symmetrical solid growth, lying chiefly to the right side. There was no history of uterine hemorrhage; yet, acting under the rule
of exclusion, we agreed virtually as to the nature of the growth, that it was a uterine fibro-myoma. And we feared that this exacerbation was due to some change in the tumor, such as suppuration, hemorrhage, or mortification from twisting of its pedicle. That it was pedunculated we believed from its change of position from left to right side. This diagnosis called for immediate operation; but she assured us so positively, and in this she was sustained by her husband, that she had previously undergone like attacks, that we were deluded into the hope that treatment might ameliorate her condition. This ended my connection with the case. I was not consulted afterwards until called upon to make the post-mortem. The following morning, however, Dr. Stephens found her in about the same condition, still vomiting, pulse 140, temperature 100°. At 6 p.m., the rapid pulse, excessive vomiting, acute pain, and tenderness, general tympanites, great thirst, and extreme prostration led him to infer the existence of extensive peritonitis, and that death was imminent.

Her great suffering was only partially alleviated by heroic doses of morphia. Wednesday morning, the fourth day of her illness, she died.

The consent of family and friends to a post-mortem was gained through the persistent efforts of Dr. Stephens. He requested me to make the examination, which was done fifteen hours after death.

Upon opening the cavity in the median line, the dark, congested surface of the tumor was found lying immediately in apposition with the anterior wall of the abdomen. The tumor lay, as diagnosed, largely upon the right side, filling completely the middle and lower portions of the abdomen, extending down into the cavity of the true pelvis, pressing the uterus downwards and backwards. The tumor was at once recognized as an enormously enlarged spleen, deeply congested, free from attachments save by a pedicle some eight inches long. And here was found the true cause of her suffering and death. The pedicle was twisted on itself two and one-half times. The tension caused by the weight of the tumor was so great that venous circulation was entirely obstructed.

The splenic vein was almost as large as the small intestine. The rapid growth of the tumor observed by Dr. Stephens during the four days she was under his care was due simply to an accumulation of blood in the tumor.

The cavity of the abdomen was dry; there was no evidence of peritonitis.

The liver was now examined, and here was disclosed another important feature of the case. The organ was not larger than an ordinary saucer, only three-quarters of an inch through the right lobe, very pale in color, and extremely dense in structure. The gall bladder was small, but distended with bile.

The spleen, when removed, and after losing several ounces of blood by a small tear in its capsule, weighed full eight pounds, and measured 13 inches long, 5½ inches thick.
In these days of laparatomy, it requires a deal of courage for one to voluntarily acknowledge that he has permitted a patient with a non-malignant abdominal tumor to die without operation. My connection with the case was limited to one visit. Then we permitted ourselves to attach too great importance to the clear statements of an intelligent patient, and hoped, with her, this storm, like others, might be weathered, and later, and under more favorable circumstances, an operation might be undertaken. Again a diagnosis was extremely uncertain. True, we erroneously agreed as to the nature of the growth, but as to the attending complication we had but little idea. Yet, in the face of the facts, the indication to open the abdomen was most imperative.

This is a rare case, and a brief consideration of it may prove valuable to laborers in this special field of surgery.

Here we had to deal with a case presenting the most urgent symptoms. The history told of cholera, yellow fever, and ague. The patient was vigorous and robust, a very bright mulatto, with sparkling eyes and cherry lips; no sign of cachexia, no spanemia.

There are two views to take of this case. We must remember the disposition of the blood after it is taken to the spleen. It does not circulate through venous trunks, but it poured directly into the pulp substance. This peculiar circulation is most favorable to stagnation; keeping this fact in mind, may not the unusually small and cirrhotic liver, with its obstructed portal circulation, have acted as a factor in the growth of the spleen, rather than the influence being exerted in the reverse manner, namely, that the size of the liver was due to compression by the spleen—an opinion expressed at the autopsy? On the other hand, was this a case of splenic leukemia? Wilks describes a class who, “even at an advanced stage of the disease, have often a good deal of color in their cheeks” (Fagge).

The blood was not examined under the microscope; the proportion of leucocytes to red discs as positive proof is wanting; yet here we had a decided history of marsh poison, and while I admit the obstruction to portal circulation was certainly an element in the case, I believe the disease was splenic leukemia. In the study of this disease, it is not unusual for the autopsy to show the presence of the enlarged spleen in some remote portion of the abdomen where it could hardly be looked for. Fagge
Diagnosed as Uterine Myoma.

361
tells us that so completely may the organ fill the whole abdomen below the navel that in the female it has often been mistaken for ovarian tumor; then he proceeds to tell us how its real nature may be "easily distinguished."

Tait says to mistake an enlarged spleen for an ovarian tumor is hardly a pardonable error, inasmuch as we possess "one perfectly decisive sign: It is, that on the right side of the tumor may be felt a sharp edge under which the fingers may be passed, especially if the patient is asleep. The tumor may then be tilted over on its own axis upwards and towards the left." Doubtless this means of differentiation is sufficient in all ordinary cases. Dr. Goodell, however, failed to find it applicable, a few months ago. He did a laparatomy; his diagnosis had been sarcoma of the right ovary or omentum, "but he was so uncertain of it that he sent the specimen to Dr. Formad, who pronounced it a lenkemic spleen; it weighed not quite six pounds" (Am. Jour. Obst., June, 1888). From this wording one must infer that Prof. Goodell not only did not suspect enlarged spleen, but did not even recognize it after it was in his hands, when he could not only feel, but see the festooned margin to which all writers attach so much diagnostic importance.

Greig Smith, who classifies everything, says, under the heading of non-symmetrical solid growths, on the right side of the abdomen we find solid growths of liver, solid tumors of gallbladder, and cancer of cecum. On the left side he gives solid enlargement of spleen and wandering spleen. In Dr. Stephens' case, the patient said the tumor had been in left iliac region at times, then disappeared entirely. Be that as it may—and there is much room for doubt there—when first seen by the doctor afterwards by myself, the bulk of this tumor was on the right side. A little to the right of median line there was a ridge, but no characteristic irregularity. One of the most singular and to me misleading features of this case was the positive statement from the patient and her husband that the tumor showed something like periodic enlargement. This led me to conclude the tumor was myoma and influenced by menstruation. Perhaps I the more readily adopted this idea, having only a short time before done a hysterectomy for a large uterine myoma in which this peculiar feature of monthly enlargement was strikingly observed. It is now plain enough to see that the variation in the size of the tumor was simply passive conges-
tion of the spleen caused by torsion of the pedicle in its wanderings.

SCARLATINOUS OTITIS.

BY
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Were any excuse necessary for the presentation of the paper which I have the honor of having been asked to read this evening, it could be found in the large number of cases of impairment of hearing and of total deafness resulting from scarlatina, and in the fact that the dangerous opinion crediting scarlatinous otitis with being able to take care of itself and needing no treatment is quite prevalent. Some remarks on this subject seem quite opportune, now that a great many cases of scarlatina are being reported.

Though ear affections as complications or sequels of scarlatina are known to be quite common, I have been able to find but one author who gives expression to this frequency in figures: Bureckhardt-Merian\(^1\) quotes Baader, who observed this frequency in two epidemics of the diseases; in one \(33\%\), in the other \(22\%\) of all cases presented otitis as a complication or as a sequel to scarlatina.

Much more statistical evidence is at hand to show in what a large percentage of the cases which present themselves with ear affections, scarlatina has been responsible for the aural trouble. Thus Schmalz reports 2,500 cases of ear affections, of which 137 were due to scarlatina \((5\frac{1}{2}\)%\). Jearsley found 26 cases due to scarlatina among 544 examined \((almost 5\%)\). Bureckhardt-Merian, among 1,950 cases of ear disease, found 85 due to scarlatina \((4\frac{1}{2}\%)\). About \(5\%\), therefore, of all aural affections appear to be the result of scarlatina.

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\(^1\) Read before the Pediatric Section of the New York Academy of Medicine, March 14th, 1889.

When we come to examine the nature and extent of these ear affections due to scarlatina, we find that not only are they numerous, but the percentage of serious cases in which marked impairment of hearing, or even total deafness, is present is a large one. Burckhardt-Merian found entire destruction of the membrana tympani in 34% of cases of scarlatinal otitis; and as an additional illustration of the serious effects of otitis after scarlatina, when left to itself, the following brief resumé may be of interest: Bezold reports 185 cases in which these effects after scarlatina were carefully observed:

Of these 185 cases, in 30 the entire membrana tympani was destroyed, with loss of one or more bones; in 59, the perforation comprised two-thirds or more of the membrana tympani; in 13, there were smaller perforations; 44 cases were complicated with granulations and polypi.

As regards the effects upon the function of hearing in these same 185 cases:

In 15, hearing totally destroyed (in 6, on both sides).
In 77, hearing distance for low voice less than half a metre.
In 25, hearing distance for low voice between one-half and two metres.
In 14, hearing distance for low voice above two metres.

But the most impressive idea of the alarming effects of scarlatinous otitis upon hearing may be gathered from the following table, which has been taken from the monograph of Burckhardt-Merian already alluded to, and to which additions have been made. In its modified form, this table represents reports from deaf-mute institutions of many different countries:

<table>
<thead>
<tr>
<th>Reported by</th>
<th>Total Number of Cases of Deaf-mutes</th>
<th>Number of Cases Resulting from Scarlatina</th>
<th>Percentage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toynbee</td>
<td>98</td>
<td>36</td>
<td>36.73</td>
</tr>
<tr>
<td>Sauveur</td>
<td>1,892</td>
<td>216</td>
<td>11.41</td>
</tr>
<tr>
<td>Wilde-Irish census</td>
<td>503</td>
<td>35</td>
<td>6.96</td>
</tr>
<tr>
<td>Wilde-American report</td>
<td>787</td>
<td>44</td>
<td>5.39</td>
</tr>
<tr>
<td>Blake and Shaw</td>
<td>18</td>
<td>4</td>
<td>22.22</td>
</tr>
<tr>
<td>Arnold</td>
<td>144</td>
<td>13</td>
<td>9.02</td>
</tr>
<tr>
<td>Bureckhardt-Merian</td>
<td>35</td>
<td>3</td>
<td>8.56</td>
</tr>
<tr>
<td>Hartmann</td>
<td>1,989</td>
<td>205</td>
<td>10.30</td>
</tr>
<tr>
<td>Roosa</td>
<td>147</td>
<td>16</td>
<td>10.88</td>
</tr>
<tr>
<td>Total</td>
<td>5,613</td>
<td>572</td>
<td>10.18</td>
</tr>
</tbody>
</table>

1 Bezold, Arch. für Ohrenheilkunde, Bd. XXI. (Krankenbericht, 1881-1883).
Thus 10% of deaf-mutes owe their affliction to the effects of scarlatina. The study of these figures should certainly result in diminishing the tendency on the part of the general practitioner to do nothing in the way of treatment in cases of scarlatinal otitis. There was a time, many years ago, when the discharge of scarlatinal otitis was looked upon with feelings of satisfaction and regarded as a favorable means of ridding the system of the scarlatinal virus; but the days of such erroneous pathological ideas are past; the reason for inactivity in the treatment of scarlatinal otitis by the general practitioner probably is that he regards the achievements of otology as doubtful and unsatisfactory. Though this may be the case in some affections of the ear, in the group of cases comprised under the title of this paper, aural therapeutics are capable of producing the most happy results; and there is no doubt that the active treatment of these cases by the general practitioner, during the course of scarlatina, would do much to diminish the large percentage who owe a serious defect in hearing, or total deafness, to the effects of this disease. We should also remember that no patient is safe who suffers from chronic purulent otitis media; for we can never be certain when the disease will extend to neighboring parts, and when a serious or fatal result, such as meningitis or cerebral abscess, will ensue.

The symptoms which we get in scarlatinal otitis do not differ from those which we find in otitis occurring under other circumstances; they are apt to be severe and well marked. Usually the otitis does not occur until after the scarlatina has lasted several days, very often during the commencement of desquamation. We then often find the complication ushered in by chills; in very young children there may be convulsions; there is rapid elevation of temperature, often rising to 104° or 105°, with a corresponding increase in the frequency of the pulse and of breathing. There is great pain, at first paroxysmal and confined to the ear, but soon becoming of a steady neuralgic character and radiating in various directions from the ear, following branches of the fifth nerve; the pain is regularly worse at night. There is tenderness which may be confined to the region around the tragus, but often extends and involves the mastoid region, even in cases in which mastoiditis does not occur. Deafness is nearly always well marked and develops rapidly; both ears are affected in the great majority of cases,
though in a few the affection is unilateral. There is great restlessness; then the patient becomes quite stupid, and often, if there is no interference giving relief, symptoms indicating meningeal irritation, and even those of blood-poisoning, show themselves. There is usually swelling of the cervical, auricular, and submaxillary glands, and this swelling may precede the invasion of the otitis, or may have been present as the result of the scarlatina.

After lasting two or three days, these symptoms are usually relieved, even when no paracentesis is done, by spontaneous rupture of the membrana tympani; and following this there is a gradual diminution in the intensity of the symptoms, and they may cease entirely; or with the closure of the opening in the membrana tympani they may again become severe.

The diagnosis, though usually quite easy and apparent, is sometimes less evident. This may be the case in very young children who do not complain of the pain, and who give us no local symptoms referable to the ear, except perhaps occasionally to put the hand to this organ. In such patients, when, whilst the symptoms of the scarlatina are on the decline, there is an increase in temperature, restlessness, and other symptoms of irritation for which we can find no cause, the ears should always be examined; such young children often press the ear affected into the pillow, and in this way give us a guide to the part causing the exacerbation of symptoms. It is a singular fact that pain is not always complained of, even in children old enough to express their ailings, and in this way the aural complications may be overlooked until meningitic or pyemic symptoms have arisen. I have myself observed such a case, in which, though on the alert for ear complications, a purulent otitis occurring during the desquamative stage of an attack of scarlatina in a child was overlooked until compelled to find a cause for rapidly developing stupor, chills followed by fever and profuse perspiration, and other symptoms indicating a probable absorption of septic material by the blood; paracentesis of both membranae tympani in this case was followed by immediate improvement.

The title "Scarlatinous Otitis" includes all the ear affections which may occur as complications or as sequelæ of scarlatina; in the great majority of cases they are examples of otitis media, catarrhal, purulent, and diphtheritic; but extension to the
May: Scarletinous Otitis.

mastoid process and to the labyrinth also occurs, though fortunately in only a minority of cases. It is probable that in all cases of scarlatinum congestion of the mucous membrane of the tympanum takes place; this may give rise to no subjective symptoms, and is probably devoid of consequences. In the milder cases, catarrhal inflammation exists, and the symptoms of this may be slight, and the complication may subside with little or no treatment after the angina, of which this is but an extension, disappears.

Though some cases of catarrhal otitis media give rise to marked symptoms, it is generally the purulent and diphtheritic varieties of the inflammation which furnish the cases of pronounced scarlatinous otitis. In these cases there is now no longer any doubt that the complication arises through a direct extension of the throat lesion through the Eustachian tubes into the middle ear; the theory of metastasis which was formerly held is now no longer tenable; direct extension of the pharyngitis accompanying scarlatinum has been proven to be the mode of occurrence by numerous post-mortem sections.

It is now generally believed that the severer forms of scarlatinous otitis are due to a diphtheritic otitis media, and this even in cases in which diphtheritic patches cannot be observed in the throat; it is certain that those cases of scarlatina which are complicated by diphtheria are most likely to be affected with severe forms of otitis media—varieties which are remarkable for their malignant character, so to speak. Thus it is noticed in the severe forms of scarlatinous otitis, that a very rapid and extensive destruction of tissue takes place, more rapidly and more extensively than can be explained by maceration of the membrana tympani by the products of inflammation, and by pressure of the latter and the incarcereated secretions; for these conditions of maceration and pressure also exist in ordinary cases of otitis media purulenta, and yet such a rapid destruction of membrana tympani and loss of ossicles is not seen. Furthermore, even after spontaneous perforation, or after paracentesis, this peculiarly active destructive process continues; often in several weeks entire absence of membrana tympani and the escape of one or more ossicles are noted. Burckhardt-Merian found entire loss of membrana tympani in thirty-four per cent of cases of scarlatinous otitis which had not been specially treated. This same necrotic tendency is seen in cases of primary diphtheria
May: Scarlatinous Otitis.

367

of the middle ear—the existence of this can scarcely be doubted now. On the other hand, it is somewhat peculiar that though aural complications of diphtheria are not infrequent, they are generally of the catarrhal and purulent types, and are rarely diphtheritic.

It is easy to account for the occurrence of diphtheritic otitis in cases in which scarlatina is complicated by pharyngeal diphtheria; for, besides direct extension, each act of swallowing causes some of the infected air of the naso-pharynx to be forced into the middle ear; in these diphtheritic cases, after perforation, shreds of false membrane will be found adhering to the walls of the tympanum; these are difficult to tear off, and are accompanied by a little secretion of a sero-purulent nature and often quite offensive.

Though such serious consequences result from scarlatinous otitis, the prognosis is certainly largely influenced by treatment. This is one of the redeeming features of otology. Without treatment the effects of the severer forms of scarlatinous otitis are very disastrous to the function of hearing; with treatment, it has been shown the results are very favorable. The very mild cases in which the inflammation is of a catarrhal type often do well, and recover perfectly without any treatment. In cases in which the internal ear is affected, the consequent impairment of hearing is thought to be produced by the deposit and pressure of inflammatory products upon the ends of the auditory nerve; in these cases, numerous examples are reported in which the deafness has been unexpectedly recovered from in the course of two or three months, and sometimes even without any treatment whatever; in such instances it seems plausible to suppose this improvement to be due to absorption of deposited inflammatory products.

In regard to treatment, there are simple and effective means which can be used by the general practitioner, which will suffice to cure the complication in mild cases, reduce the severity and diminish the disastrous effects upon hearing in the more serious forms. At first, all forms may be treated alike. With the occurrence of pain, tenderness, deafness, and other symptoms indicating an extension of inflammation to the middle ear, a long, narrow ice-bag should be applied so as to cover the region immediately behind the auricle, and curving around the lower end of this organ upon the temporo-maxillary
region; if a layer of flannel be interposed between the auricle and ice-bag, these applications are not, as a rule, disagreeable, and are very often effective. Tincture of iodine often acts well, painted over the skin immediately behind the auricle.

In some cases, these applications of cold are not borne well; then we should use hot applications, covering the entire auricle with cloths wrung out of very hot water; over these we place a large wad of cotton covering the entire side of the head and a layer of oil silk on the outside; in this way heat is most effectively applied.

Whether hot or cold applications are made use of, we must endeavor to control the pain, which in many cases is quite intense and is apt to be pronounced at night. The best manner of accomplishing this is to instil hot salt water (3 i. to Oi.) into the ear, allowing it to enter the external auditory canal from a fountain syringe held not more than a foot above the level of the ear; or it may be poured in by a teaspoon or a medicine dropper; a little tincture of opium or cocaine may be added to the salt water, but these do not materially increase the anodyne properties of these applications in which warmth is the chief agent in relief.

Large doses of antipyrin are also useful in controlling the pain, and if these do not answer, an opiate should be given; for it is essential that the patient be relieved from pain and restlessness. Rest is an exceedingly important factor in all these cases, and must be insisted upon, if this has not already been done in the treatment of the scarlatina. It must be absolute rest in bed.

Another simple and valuable method of giving relief in these cases is local bloodletting. Two leeches may be applied just behind the ear, if there be any tenderness over the mastoid region, or at the anterior limits of the tragus, care being taken to prevent entrance of the leeches into the auditory canal by filling this with cotton. The artificial leech of Heurteloup may also be used over the region in front of the tragus, its application behind the auricle being difficult on account of the unevenness of surface existing in this situation.

In very mild cases, where there is but congestion or a mild form of catarrhal inflammation, these simple means will suffice, and be followed by a disappearance of all symptoms referable to the ear. But if, in more severe cases, the symptoms do not
disappear, examination of the membrana tympani will probably show intense congestion or a bulging of this membrane, and paracentesis is then absolutely indicated. It is not desirable to wait until a large collection of secretion in the middle ear gives us a classical picture of a bulging drum membrane projecting into the auditory canal, and presenting a marked yellowish reflex indicative of the existence of pus within; such classical pictures are not common under the circumstances, for the pain, tenderness, swelling of the canal and the difficulty of making a thorough examination often compel us to be satisfied with but a hasty glance through the speculum. Paracentesis is indicated in all these cases, even where there is no physical evidence of anything but congestion of the drum membrane; the results of this operation are almost always immediate and gratifying, whether pus has been evacuated or whether the incision has merely allowed the escape of sero-mucus, or of only a small amount of blood.

In such cases the early performance of paracentesis cannot be urged too strongly; some mild cases may get well without it, but even in these cases the incision can never be called a mistake; for did it accomplish nothing more than the immediate relief of pain, it would still be entitled to be regarded as a valuable resource. If the auditory canal be kept clean, this small operation never does any harm; the wound in the membrane has a pronounced tendency to heal rapidly, and this often before such closure is desirable.

After paracentesis, if nothing but blood or serum or sero-mucus issue from the opening, the case may be left to itself, a little cotton being kept in the auditory canal so as to absorb the discharge. The cotton should be loosely applied. The patient should lie with the affected ear upon the pillow, if the trouble be unilateral. Even if the paracentesis has resulted in evacuating pus, the case very frequently needs no further treatment; the cotton, loosely applied in the canal, should be changed frequently; after several days the discharge, gradually lessening, may cease entirely; the opening in the drum-membrane heals perfectly, and the patient hears as well as ever.

But supposing, in a case in which paracentesis has been performed and pus has been evacuated, there are evidences that the discharge does not escape freely, as shown by attacks of pain and by a commencing offensive odor of the material from
the middle ear; then it will be necessary to empty the middle ear completely once a day by pressure from behind, and to cleanse the auditory canal several times a day. The middle ear is emptied by inflation with Politzer's bag or with the Eustachian catheter; the catheter is preferable, because there is no danger of forcing offensive material from the nose and naso-pharynx into the Eustachian tube and thence into the middle ear; but it can rarely be used in children under four years, and even in older children its successful application seems to depend upon the skill of the practitioner—not infrequently the child will not permit its use even in the hands of the most experienced aurist. On this account the Politzer bag must be resorted to in a great many cases, the child being asked to swallow water, or in very young children being made to scream as a means of causing closure of the palate, and thus compelling the air to enter the Eustachian tube. Previous to Politzerization, it is well to wash out the nose and naso-pharynx; this can readily be done without any risk of exciting additional aural trouble by using an ordinary straight-pointed medicine dropper; the latter is filled with warm salt solution (1:1 to 0:1 water) and introduced into each nostril about half an inch in a horizontal direction; the bulb being compressed, the fluid passes through the nasal cavity and naso-pharynx, and escapes from the other nostril or from the mouth; this is an easy, safe, and effective manner of cleansing the nose and naso-pharynx, and I have never seen any injurious effects from its employment.

In those cases in which there is a tendency for the discharge to become offensive, or in which it is very profuse, it is necessary to keep the auditory canal clean. The very best solution for this purpose is an aqeous solution of salt—a teaspoonful of table salt to a pint of water; this should always be used warm. It is difficult to see why there should be any prejudice against washing out the canal in these cases, except that it may owe its origin to the fact that pure water is irritating if there be an opening in the drum membrane, just as pure water is irritating to any mucous surface. But salt water of the indicated strength (1:4 of 1%) is devoid of irritation, is cleansing, bland, and soothing. It is, of course, no disinfectant, but neither are boric acid in powder or boric acid or borax in solution; true disinfectant solutions are too irritating in this stage. The salt solution may be used either by fountain syringe (not
held too high, so that the force be not too great,) or the ordinary syringe used gently, undue pressure being injurious, and care being taken not to injure drum or canal by the nozzle of the syringe.

Often this treatment will be all that will be required; the opening in the drum-membrane, whether spontaneous or made by paracentesis, will heal after the secretion of pus has ceased. Packing the auditory canal with powdered boric acid in such a manner as to prevent the escape of pus is not only an irrational, but a dangerous proceeding, and may cause extension of the inflammation to deeper parts of the auditory apparatus; if the pulverized boric acid be blown in in quantities insufficient to cause a barrier to the escape of secretions, and the canal be washed out each time before the insufflation is repeated, no such objection can be urged against the boric acid treatment. The fact that after paracentesis these simple cases do well when kept clean, whether treated by insufflations of boric acid or where nothing but salt water is used, may explain why good results are reported after use of a great many different bland remedies; and these simple cases certainly do as well without as with boric acid insufflations.

Should a repetition of symptoms and an examination of the drum-membrane show that the edges of the incision have united, it is necessary to reopen the wound, or to repeat the operation of incising.

In performing paracentesis of the drum-membrane, it is customary to use a narrow knife resembling a lance-shape-pointed needle, and this is supported upon an obtuse-angled shaft; the speculum being introduced and a good light thrown in from the forehead mirror, an incision is made in the postero-inferior quadrant, or it may be made in any part of the posterior half of the membrane; the postero-inferior quadrant is usually selected because the tympanum is deeper here, and the opening is made in a part of the drum-membrane favorable for the escape of secretion. Any narrow knife, such as the Graefe cataract knife or a very narrow bistoury, will answer for this operation. The mistake usually made by those who do not perform the operation frequently is to make the opening too small; it can scarcely be made too large, and should be free and extensive, running from behind downwards and forwards. The operation is painful, but is only of momentary duration;
the most efficient way of reducing the amount of pain is to
have the instrument employed very sharp, and to do the opera-
tion rapidly. Cocaine has some effect, but certainly not much
in anesthetizing the part; and this does not seem surprising,
when we remember that we are really dealing with a cutaneous
surface.

It is not until all acute symptoms have subsided that it is
proper to use astringents for the cure of any remaining
otorrhea.

Where there are marked swelling and tenderness over the mas-
toid region—and these are not relieved by a paracentesis of the
drum-membrane—it is proper to make Wilde's incision—an in-
cision one or two inches long, extending in a curved direction
in corresponding to the posterior attached margin of the auricle,
and from two-fifths to three-fifths of an inch behind this down
to the bone.

My experience in the treatment of those severe and rapidly
destructive cases of scarlatinous otitis in which the inflammation
is frequently of a diphtheritic type has been rather limited, and
therefore I prefer to give a brief resumé of the treatment re-
commended by Burckhardt-Merian, who is considered quite an
authority in these cases. He advises the cauterization of the
diphtheritic patches through the opening in the membrana
tympani with a ten-per-cent solution of salicylic acid in alcohol;
thiss he applies upon cotton at the end of a delicate cotton-holder,
and such applications are made first twice a day, and then once
daily; if patches are seen in the naso-pharynx these are also
cauterized. The applications are painful, and this, as well as the
tendency to vomit when the applications are made, is controlled
by allowing the patient to suck small pieces of ice. The polypus
snare and the aural curette are used to remove as much as pos-
sible of the diphtheritic membrane from the tympanum. The
auditory canal is syringed several times a day with a solution of
salicylic acid made in the proportion of one or two teaspoonfuls
ofa ten-per-cent alcoholic solution to 100 grams of water.
A solution twice this strength is used for gargling. The nose
is cleansed by the douche, first with salt water (three-fourths
of one per cent), and gradually salicylic acid is added to this salt
water in the proportion of two or three tablespoonfuls of this
ten-per-cent alcoholic solution to one litre of salt solution.
Sometimes he employs salicylic acid insufflations in the place of
applications of the ten-per-cent solution. Other authorities have recommended filling the auditory canal with lime water several times a day, with a view to dissolving the diphtheritic membrane.

Where the nervous apparatus of the auditory organ has become involved as a result of scarlatina, our means of limiting this result are meagre, if we have any at all. Pilocarpine has been employed rather extensively for this purpose, daily hypodermic injections of one-twelfth to one sixteenth grain being used for four or six weeks. The reports of the efficacy of this treatment are conflicting. Politzer, who first recommended the drug, is inclined to abandon it now; Rosengarten recently reported many favorable results, as did also Wolf in two cases of scarlatinous otitis affecting the labyrinth. Its employment seems rational, for with increased exudation into the various parts of the auditory apparatus, the absorption of inflammatory exudations would seem to be favored, thus relieving pressure upon nervous tissue and facilitating easy motion in the joints between the ossicles of the ear. I have not employed this remedy in a sufficient number of cases (not more than ten cases), but in this limited number the results were rather doubtful and altogether rather unsatisfactory. It is a fortunate fact that in many such cases in which the remedy seems indicated, marked improvement in hearing not infrequently occurs after two or three months even when nothing is done, so that the prognosis in these cases is indefinite.

In conclusion, I would call attention to an unexplored field of observation which would be the means of giving information having an important bearing on our knowledge of scarlatinous otitis, and one which lies within the province of the general practitioner and is inaccessible to the aurist: To what extent is the frequency of scarlatinous otitis, and to what degree is its severity influenced by the treatment of scarlatina, and especially by the treatment, both general and local, of those cases of scarlatina which are complicated by diphtheria?

A CASE OF ABSENCE OF THE BLADDER. 1

by

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Washington, D. C.

(With colored Plate.)

This child, Mamie F., now eight years old, is the offspring of a healthy mother and a whiskey-soaked father. She was always well as an infant, but it was remarked even then that she was constantly wet. No attention was ever given to the parts until the child was nearly two years old, when, in consequence of an almost constant bearing-down pain, causing prolapsus of the rectum, an examination was made, and then for the first time the malformation was discovered.

The meatus urinarius, vestibule, and labia minora are entirely absent. The labia majora are imperfectly formed, consisting simply of little folds of skin, about an inch long; about an inch and a half apart posteriorly, and about two inches apart anteriorly.

The ureters discharge externally, just inside of the anterior edge of these little folds of skin, nearly two inches apart.

The pubis is considerably depressed, and has a soft feel, as if it might be cartilaginous.

During the first examination, six years ago, a tumor was found protruding partly, during a pain, through this imperfectly formed vulva, which would be drawn into the vagina again as the pain would wear off. After several weeks of this kind of suffering, the tumor, about as large as a hulled walnut, was found to remain extruded all the time, and the bearing-down pain to be almost continuous. The tumor was removed, and as the paternal grandmother had just died of uterine cancer, it was submitted to microscopic examination, and was at first reported to be cancer, but was afterwards thought to be composed of bladder epithelium.

After the removal of the tumor, the bearing-down pain ceased,

1 Case exhibited before the Washington Obstetrical and Gynecological Society, April 6th, 1888.
ABSENCE OF BLADDER - WINTER.
and the rectum was prolapsed only when the child would strain hard at stool. This improved condition lasted for about one year, when it was found that the tumor had returned, with the bearing-down pains, prolapsus of rectum, etc. In making an examination at this time, now five years ago, I pushed the tumor back into the vagina, carrying it up the whole length of my finger, and was surprised to find that the bearing-down pain was entirely relieved. I have seen but little of this child for the last five years, but am informed that, although she occasionally has the bearing-down pain, the tumor has not returned.

There is now, as there always has been, a constant dribbling of urine, and an almost constant inflammation of the parts.

The external orifices of the ureters can be seen quite plainly in the accompanying colored plate.

A NEW METHOD OF PERFORMING HYSTERO-MYOMECTOMY.1

BY

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I have adopted the name hystero-myomectomy, in accordance with the suggestion of Prof. Zweifel, as more correct and fully descriptive of the operation under consideration than the title "supra-vaginal hysterectomy," by which it is usually known. The name designates the operation for the removal of the uterus, with fibroid tumors, with the preservation of a part of the cervix.

It is thus conveniently distinguished from panhysterectomy or Freund's operation, the total ablation of the uterus, on the one hand, and from supra-vaginal hysterectomy, or Schroeder's operation, extirpation of the diseased cervix per vaginam, on the other hand.

Interstitial or subperitoneal fibroid tumors of the uterus, from the size of a fetal head up to a great mass filling and distending the abdomen, are not infrequent.

The source of distress to the patient is commonly either from

1Paper read before the College of Physicians, Philadelphia, January 2d, 1889.
hemorrhage, from obstruction of blood-vessels and channels of emunctories, or excessive pain in the back and abdomen. While all these symptoms may often be alleviated by appropriate palliative or mild operative treatment, a sufficiently large number remain in which all such efforts are unavailing, and the radical cure by extirpation is the only resource.

Prof. Koeberlé, in 1863, was the first operator who followed a well-defined, subsequently detailed procedure, consisting in abdominal section, the delivery of the enlarged uterus, clamping its base, and the removal of the tumor with a part of the uterus. At the present day, the great variety of methods advocated may be classed under two general types, according as this base of the tumor (the pedicle) is dropped back into the peritoneum, or is clamped or ligatured and kept outside until it sloughs off at the seat of constriction.

The present extra-peritoneal treatment is the continuation of the original plan in a perfected condition.

Hegar's operation, the form in common use, is thus carried out.

An incision is made into the abdomen large enough to allow the escape of the diseased uterus.

This is next delivered, and its circulation completely controlled by a stout rubber ligature transfixing and encircling its base, in the neighborhood of the cervix uteri.

The uterus and tumor are then cut off a sufficient distance above the rubber ligature to avoid any danger of this slipping over the end of the stump thus formed.

Fig. 1. Stump ligated and brought out at the lower angle of the wound by Hegar's method.

Fig. 2. Stump dropped and abdominal incision closed, after Schröder.
Performing Hystero-myomectomy.

The abdominal wound is then closed down to the stump, which is brought out at the lower angle of the incision.

The peritoneum of the abdominal wall is then stitched to the peritoneum of the stump on all sides, just below the rubber ligature compressing the stump.

A rigid antiseptic after-treatment is adopted until the stump sloughs away, at or below the constriction, in about two weeks, leaving a deep, granulating pit which slowly fills up.

Schroeder’s plan, on the other hand, is an attempt to realize an ideal method, being a careful scientific effort to utilize in the field of hystero-myomectomy the means which have yielded such brilliant results in ovariotomy, namely: after careful ligation and removal of the tumor, dropping the pedicle within the peritoneum and completely closing the abdominal wound.

Here the abdominal incision is made, adhesions between the tumor and neighboring viscera separated, and the tumor delivered from the abdomen, the broad ligaments on either side being tied off down to their bases, thus controlling the ovarian arteries and great veins, and clearing the way down to the stump, around which Kleeburg’s temporary rubber ligature is thrown, and the circulation completely controlled.

The uterus and tumor are then removed “en masse” above this ligature, in such a manner as to cup out the proximal end of the stump.

This raw cupped surface on the top of the stump is completely closed by approximating its opposing sides, by means of several rows of buried sutures, laid one above the other and drawn very tight.

The last row brings together the peritoneal surfaces.

It must be constantly borne in mind, that these rows of sutures uniting the opposing faces of the stump are at the same time ligatures, as they must be drawn tight enough to control the circulation. The rubber ligature is finally cut off and the stump is dropped, and the abdomen closed as after ovariotomy.

The dangers of this plan of Schroeder’s are to-day just what they were at first: hemorrhage into the peritoneal cavity after the closure of the abdomen, and sepsis from the stump thus dropped within.

Dr. August Martin has with much success combated these evils by introducing drainage through the posterior vaginal cul-de-sac.
Prof. Zweifel has a wonderfully skilful plan for introducing a series of "continuous interrupted" ligatures in horizontal row through the whole thickness of the stump, with a second row above securing union of the peritoneal surfaces.

While the dangers of the intra-peritoneal method keep the general mortality above twenty per cent, the extra peritoneal method, although not so fatal, is also open to very serious objections.

In the latter it is sometimes necessary to use a great deal of force to bring a short stump high enough up into the lower angle of the wound to clamp it outside.

The large, raw surface exposed on the stump is a constant care and source of danger, always forming a ready nidus for infection.

![Stump treated by Zweifel's method.](image)

The constriction of the rubber or wire clamp is so great that the sloughing often extends much below the seat of the stricture, and the length of time occupied by the stump in sloughing away is a serious delay, and the whole procedure would appear, in the presence of any established better device, about as unsurgical as the amputation of the finger by constricting it with a wire, to be twisted every day until the finger dropped off.

With these considerations in mind, I have long sought anxiously for a device which would obviate many, if not all, of these dangers, at the same time adhering to procedures strictly surgical.

The following plan which I have adopted is in its essentials similar to a proposition of my friend, Dr. M. Säger, of Leipzig (V. Centralblatt für Gynäkologie, 1886, No. 14).

My friend Prof. Polk, of New York, also tells me that he is
Performing Hystero-myomectomy.

operating by a method in some important particulars similar to the one I am about to describe.

It is called the combined extra- and intra-peritoneal treatment of the stump in hystero-myomectomy.

Fig. 4.—Temporary ligature of the base, dotted line showing course of the incision removing tumor with uterus.

The important steps are the following: *First*, after due hygienic preparation of the patient, and careful regulation of the emunctories, she is brought to the operation, which is conducted throughout with all the antisepptic precautions at present adopted by wise surgeons the world over.

Fig. 5.—Showing cupped stump after cutting tumor and uterus away above.
She is anesthetized, the abdominal incision made, and the uterus with the tumor freed from all adhesions, and delivered from the abdomen. If the broad ligaments are spread out on the tumor at the side, they are tied off in a double row of ligatures down to the base of the tumor, which is then tightly constricted with the rubber ligature in the usual manner.

The body of the uterus, with the tumor, is then cut away above this, leaving the upper surface of the stump concave and well cupped out.

Great care is to be observed, in opening the cervical canal, to spread none of its contents on the wound surface; the canal is at once carefully and thoroughly burned out with the cautery.

The raw, cupped surface of the stump is now obliterated by rows of stout, buried, continuous sutures of catgut, one above the other, beginning at the bottom and working upwards, as in Schröder's method.

The last row almost approximates the peritoneal surfaces, leaving but a slightly gaping wound. A row of interrupted sutures, about five to the inch, passing through both lips of the now almost obliterated surface, unites opposing peritoneal surfaces. These must enter on one side and reappear on the opposite at least a fifth of an inch from the edge of the wound, and be left at least five inches long.

Then grasping these last sutures in a bunch, and pulling them
Performing Hystero-myomectomy.

well over to the right, the left border of the stump is brought into view.

The operator then takes a needle, armed with a strong catgut or silk ligature, and passes it with a sweep deeply through the
cervix, well below the end of the pedicle, entering it from before backwards. This is at once tied very tight, and the left uterine artery thus ligated.

This ligature should enter just above or below the constricting rubber tubing, according to the length of the stump. Reversing this movement, the right uterine artery is also tied.
The rubber ligature, which has constricted the stump and prevented hemorrhage up to this time, is now cut, and the lips of the wound carefully watched for any oozing. Should any occur and continue, a second ligature may be easily thrown around the uterine artery and its branches on one or both sides, just above or below the other, passing still more deeply into the uterine tissue, catching all secondary vessels.

The edges of the abdominal incision are now brought together from above downwards as far as the stump, the peritoneum is very carefully cleansed, and a drainage tube inserted just above the stump, if thought necessary.

Fig. 10. Uterine arteries ligated.
Fig. 11. Showing abdominal incision closed above and stump fastened in lower angle.

The next step is a most important one. The peritoneum of the abdominal wall is united to the peritoneal surface of the stump by a continuous catgut or interrupted silk sutures below the level of the united lips of the stump, but above the ligatures embracing the uterine arteries, thus encapsulating the stump in the lower angle of the incision.

The appearance of the abdomen is now that of a linear wound, closed to its lower angle, where it is left open down to the peritoneum.

Filling the opening into the peritoneum is seen a small ridge formed by the united lips of the stump.
Performing Hystero-myomectomy.

The dressing is simple.

Bichloride gauze which has been preserved in alcohol is wrung out in warm water and packed in around the stump.

Fig. 12.—Showing long sutures brought out of lower angle of the incision and gauze packed in under skin margin.

Fig. 13.—Simple gauze dressing; long sutures clamped in bite of forceps.

A large piece of gauze with a slit in its lower angle is laid over the whole. Through this slit the row of interrupted liga-

Fig. 14.—Nurse everting stump in case of hemorrhage.

tures on the surface of the stump is pulled and grasped in the bite of a pair of long nosed artery forceps, and over this cotton, and the bandages are placed.
By means of such treatment the raw surface of the stump is disposed of, dangerous hemorrhage is avoided by the ligature of the uterine arteries, and the contamination of the peritoneum is also avoided, by keeping the only possible channel through which any oozing blood could escape, just without the peritoneum.

Should hemorrhage occur in spite of the precautions taken, it would be held under full control at once by grasping the long ligatures in the forceps, and forcibly lifting the stump, which could then, if deemed necessary, be transfixed or clamped.

The stump thus held by the forceps is better held than by transfixion pins.

After operation, recovery should be as undisturbed as after the simplest ovariotomy.

The ligatures can be removed in from seven to nine days, and the granulating pit packed until it has cicatrizcd.

I put this method to a severe test in the case of an old woman sent to me by my friend and classmate, Dr. Lewis H. Taylor, the distinguished ophthalmologist of Wilkesbarre, Pa.

K. M., an old Irishwoman, with thin white hair and a withered body, of an age it was utterly impossible even to conjecture, came to me October 10th, 1888, for the removal of a large, hard, abdominal tumor which had been growing ever since she could remember; it filled her abdomen, and gave her great distress by its size and weight.

She measured from ensiform cartilage to pubis 39 cm., and around the navel, 84 cm. After seventeen days of careful preparation she was operated upon, in the presence of my visitors, Drs. Grandin, New York; Coburn, Canada; Thomas, New Orleans; Davis, Milton, Pa.; Constantine Goodell, Betton Masey, W. R. Lincoln, J. M. Baldy, and C. P. Noble, of this city. I was assisted throughout by Dr. Hunter Robb, and Miss Little, my chief nurse.

Ether produced such frightful, alarming cyanosis and choking, that she was given chloroform, producing instant relief and anesthesia.

The abdomen was opened, and the tumor, a large mass lying transversely, extending from one lumbar region into the other, was lifted out, and its base constricted by the rubber ligature.

Some time was wasted in the effort to control hemorrhage from a large vein on the surface of the tumor, which was cut in opening the abdomen.

Dr. Robb held the tumor and uterus while I cut it away, an inch and a half above the ligature, leaving a deep concave sur-
Performing Hystero-myomectomy.

385

This was next brought together by three rows of continuous stout catgut suture, laid one directly over the other.

A single silk ligature was then passed deeply through the uterine tissue on each side, as shown in the diagram, v. Fig. 9, and tied tightly so as to control the uterine artery.

The rubber was then cut away, when some oozing was observed at the angles of the stump. Another deeper ligature of catgut on either side was then made to embrace the uterine artery again, when all oozing ceased.

The closure of the abdominal cavity, and the union of parietal and visceral peritoneal surfaces, were as described in the steps of the operation.

Her abdomen remained scaphoid from the day of the operation to that of complete recovery, and she did not at any time suffer in any way referable to the seat of operation.

The fastening of the stump into the incision was put to several severe tests, proving the security of the method.

She suffered from a marked ether congestion of one lung for a week, and coughed constantly.

On the fourth day she rose from bed, in the temporary absence of the night nurse, and passed through an entry and three rooms, out into the yard, where she attended to the wants of nature, and returned.

She rose later to close the heater in the room, which she thought was getting too warm.

I attribute this tendency to slight aberration to a mild iodoform intoxication from absorption from the wound.

It was, however, attended by no other disadvantage.

From the seventh to the ninth day all the sutures were removed, when nothing but a pink, healthy, granulating pit remained, which rapidly cicatrizd.

At no time did she suffer pain or discomfort.

She rose from her bed in two weeks, and has some time since returned home to Wilkesbarre, and is now perfectly well.
REPORT OF ONE THOUSAND CONSECUTIVE CASES OF DISEASES OF CHILDREN, WITH SPECIAL REFERENCE TO TREATMENT.¹

BY

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New York.

At the meeting of organization of this Section, held over a year ago, Dr. A. Jacobi suggested, among other things, that those members who held positions in dispensaries should from time to time communicate to the Academy the nature and results of the work they were doing. Acting on this suggestion, I have, with the aid of my assistant, Dr. M. Muldberg, looked over the records of one thousand consecutive cases which came under my care in the class for diseases of children at the Outdoor Bureau of Relief of Bellevue Hospital. The cases applied for treatment during the past year, from April 1st to the latter part of December. In all cases of special interest, detailed histories were taken. Like all such dispensary records, however, many of the cases failed to report subsequently, thus rendering the exact study of the course and treatment of disease very difficult, so that I am not able in this paper to give exact data for everything referred to, but must in many instances simply rely on impressions derived from transitory material; for many of the cases which improved failed to report, and those which did not rapidly improve dropped from observation. Still, making due allowance for these unavoidable sources of inexactitude, I am sure that the paper of to-night will prove of some value, even if it only provokes a healthy discussion of the subjects therein referred to.

Glancing rapidly over the thousand cases, I find that five hundred and ninety-two, or more than fifty per cent, represent diseases of the respiratory and digestive organs. The respiratory disorders were most frequent in the cooler months, whereas in the hot months, the gastro-intestinal predominated. I will now refer to the various groups in greater detail.

¹ Read before the Pediatric Section of the Academy of Medicine, New York, March 14th.
Consecutive Cases of Diseases of Children.

387

Under the heading of "Diseases of the Skin," including sixty-five cases, the greater number is found to consist of cases of eczema, herpes, furunculosis, and urticaria. Occasionally we met cases of scabies, impetigo, eczema, and intertrigo, and other varieties of dermatitis. I remember to have been very much interested in a little girl, who had been troubled for years with hyperhidrosis of both hands, so that she wet everything she touched. After failing to relieve her by various astringent powders and salves, the case dropped from observation.

The heading "Specific Febrile Diseases" includes whooping-cough, mumps, measles, German measles, scarlet fever, chicken-pox; in all eighty-six cases. Of these, no less than seventy-two were cases of whooping-cough. And here I would call your attention to the fact that dispensaries in general may become centres for spreading contagious diseases. For instance, at Bellevue cases are referred to their respective classes by a lay attendant, and thus children with whooping-cough or scarlet fever may sit on the same bench with other children free from, but susceptible to these affections. My policy has always been to dispose of such children immediately, but still I am certain that many a case of contagious disease has been brought home from a dispensary.

My main reliance in the treatment of whooping-cough has been belladonna in sufficient doses to produce physiological effects. When the rest of the child is markedly disturbed at night, I combine it with bromide of potassium; a single large dose at night or in divided doses during the day. In a few cases I tried atropine in minute doses frequently repeated, but was not favorably impressed with the results. I believe that all cases of whooping-cough can be controlled by belladonna to a certain extent, if given in sufficiently large doses. I am sure that I have repeatedly seen the duration of the disease considerably shortened, and the severity of the paroxysms lessened. I believe it criminal for the physician to simply advise the patient to do nothing, and await the natural termination of the disease. I have met with many cases of conjunctival, nasal, and pulmonary hemorrhage, brought on by severe paroxysms, and one case of hemiplegia in a boy was distinctly traceable to an attack of whooping-cough. If acute broncho-pneumonia supervenes in the course of the disease, I continue the use of
belladonna, give antipyrin or antifebrin to reduce the fever, and apply hot flax-seed to the chest night and day. Finally, although antipyrin has been highly spoken of in the treatment of whooping-cough, it has proved a failure in those cases in which I employed it.

Affections of the respiratory apparatus were noted in three hundred and five of the cases. Of these no less than two hundred and fifty-five were cases of simple bronchitis; so that one out of every four in this series is a case of bronchitis. The disease presented from the mildest form involving only the larger air-tubes with coarse breathing to those severe cases of bronchial obstruction where all the air-tubes are involved down to the smallest. In the mildest cases hardly any treatment was employed, beyond external applications of camphor or turpentine with a jacket of cotton-wadding closely enveloping the chest. By quilting cotton-wadding between two layers of flannel, and cutting two openings for the arms, a very comfortable jacket is easily made. More severe cases were given expectorants like camphor, chloride of ammonium, or the officinal compound liquorice mixture. For the most severe cases—and this applies to cases of acute broncho-pneumonia—I add stimulants freely. In these worst cases, I believe it good practice to keep the temperature from ranging too high by moderate doses of antipyretics, preferably antifebrin or antipyrin. I believe, however, that the local employment of flax-seed poultices is of great service in these cases. I know that harm can follow their use when improperly employed. Thus, in tenement-house practice, we frequently see the child whose chest is poulticed carried into the hallway and children with poultices to the chest are occasionally brought to the dispensary or the poultice is removed, allowing the wet undershirt to chill the skin while a fresh poultice is being prepared. If the poultice is not removed until a fresh one is ready; if the undershirt is kept dry by surrounding the flax-seed with oiled silk; if the child is kept in a uniformly warm room, then I contend that flax-seed will render considerable service, even in very young babies. Lastly, I allow such children to inhale steam, either plain or medicated, and I believe this tends to loosen the obstructing phlegm.

Lack of time prevents me from referring in detail to the cases of broncho-pneumonia, lobar pneumonia, or phthisis
Consecutive Cases of Diseases of Children. 389

treated. I aspirated the chest of one baby suffering from pleurisy with effusion, and it got well. Another case complicated with mitral insufficiency improved under the administration of bitartrate of potassium and digitalis. In a case of empyema of long standing, I operated, and the child recovered with a fistula. One child of a year that was in imminent peril of suffocation from laryngeal diphtheria I intubated, causing immediate relief, but the child succumbed on the fourth day. I must dismiss without further notice the case of laryngismus stridulus in a rachitic infant, and the cases of simple laryngitis.

Fifty cases of heart disease are noted. One case of congenital heart lesion, contrary to the general rule, involved the mitral valve. Dr. Jacobi saw the child and confirmed the diagnosis. The baby, six months old, was under observation for nearly four months, during which time it was successfully carried through an attack of whooping-cough. The treatment consisted simply of the tincture of belladonna and the tincture of digitalis in one-drop doses several times daily. I have since met with two more cases of congenital mitral disease in young infants, in which a severe and persistent bronchitis was responsible for the intense distress of the babies. In all cases of valvular disease where symptoms pointing toward a disturbance of the circulation exist, I am in the habit of giving digitalis. This I give alone or in combination with iron. In some cases I have resorted to sparteine or to strophanthus, but my experience has been unfavorable in those cases in which digitalis has failed to relieve.

The next class includes two hundred and eighty-seven cases of disease of the digestive organs. I am at present engaged in collecting a sufficient number of cases to make a clinical study of normal and abnormal dentition, the results of which I may report at some future meeting. But the number of cases of infantile disease due to "teething" in my list is only represented by six cases, of which two were due to dental caries and one to double teeth; so that you will see that I am not very partial to holding the process of dentition as responsible for many of the disorders of childhood. In fact, I have very rarely allowed myself to lance a child's gums, even where the mother urgently requested it. Recently, in the case of a child with convulsions, where a lower incisor obstinately refused to cut its way through, I lanced the gum, but to my utter disappointment
the child had fresh convulsions, and finally died, some months later, with all the symptoms of meningitis.

The other affections of the mouth included one case of hare-lip (which I cured by a plastic operation), two cases of paralysis of the soft palate, one case of fissure of the palate, and one case of tongue-tie. Twelve cases of stomatitis applied for treatment. I have been in the habit of treating this disagreeable trouble by ordering the mouth to be cleansed after each feeding, and giving every quarter or half hour teaspoonful doses of a dilute mixture of chlorate of potash and tincture of the chloride of iron. The medication thus easily touches the lips, gums, tongue, cheeks, and palate in the act of swallowing, and in my opinion is far preferable to local applications. I have, under this plan of treatment, seen many severe cases get entirely well in twenty-four to seventy-two hours. In obstinate cases with ulcerations, I touch the ulcers daily with a ten-per-cent solution of nitrate of silver.

The tonsils and pharynx were the seat of disease in fifty-seven cases. Eighteen were cases of diphtheria and two of follicular tonsillitis. These patients were all given chlorate of potash and tincture of the chloride of iron in varying doses, according to age, at intervals of a half-hour or hour without local treatment. The parent usually returned at the end of a week reporting the child well. Of the cases of acute tonsillitis, only one—in a little girl of four years—went on to suppuration and required an incision in each tonsil.

In twenty-five of the cases, the stomach was affected, nineteen being cases of gastric dyspepsia and six of gastritis. Enteritis, gastro-enteritis, diarrhea, and dysentery occurred in one hundred and forty-one of the cases. I tried salol in a series of cases of intestinal disease during the summer, as I had read brilliant accounts of its efficacy in such cases. Of sixteen cases which returned to report, not more than three or four were distinctly benefited, and, as a rule, I found it necessary to change the treatment; so that in my hands salol has proved a failure. It may be useful as an adjuvant, but I place my faith in fresh air, proper diet, and astringent or disinfectant remedies, in combination with opium. Many of the little sufferers were sent on the free water excursions or to the seaside, and I can testify to invaluable benefit having been thus rendered.

The other affections of the bowels which came under my
care during this period included constipation, intestinal colic, hernia, and prolapsus recti. Although the popular mind holds worms responsible for many of the ills of childhood, I only met with thirteen cases in this series in which the worms put in an appearance; of these there were eight cases of thread-worm, four cases of round-worm, and one case of tape-worm. Many instances of nasal irritation from fever and various other causes were brought to be treated for worms. In some cases, where this was the only symptom present, I ordered calomel or santonin or castor-oil, but in very exceptional cases were worms passed; so that I have no faith in a diagnosis of worms without seeing the worms themselves.

Under genito-urinary diseases I have noted two cases of hydrocele which were relieved by repeated aspirations; one case of painful micturition, due to phimosis, which required circumcision; five cases of incontinence of the urine, most of which progressed favorably under the belladonna treatment; single instances of strangulated prepuce, cystitis, acute and chronic nephritis, orchitis, and partial suppression of the urine; and four cases of vaginitis. I would here say one word in regard to the examination of urine in infants and young children. The great stumbling block with many physicians is, not the mere process or trouble of examining the urine; it is the trouble of getting the urine for examination. For this purpose they recommend a careful watch on the baby, with a cup constantly on hand to catch as much of the urinary spurt as possible. As a rule, by the time the cup is brought the urine has made good its escape. Another method is to wring out diapers and sponges, but such specimens are usually impure and unsatisfactory. The simplest method, and one which can readily be carried out in young babies, is to pass a small-sized, semi-elastic catheter into the urethra. As Dr. Jacobi once said, it is easier to do this in children than in adults, for they have not yet had opportunities like the latter to narrow the natural calibre of the canal. In male babies there is hardly any difficulty at all. In female babies, where the orifice of the urethra cannot be readily seen, I have frequently found that the mere irritation of the adjoining parts with the catheter will cause the bladder to empty itself. The only precautions necessary are to oil the catheter well and to proceed with extreme gentleness.

Under "General Diseases" there are ninety-eight cases. This
class included malaria, rheumatism, purpura, syphilis, anemia, sarcodiosis, rachitis, and marasmus. The diagnosis of malaria was made in thirty-four of the cases. This is a proportion of nearly \( \frac{3}{5} \) per cent. In acute cases the diagnosis was based on the history, exclusion of other possible causes of fever, malarial residence, and enlargement of the spleen. Chronic cases were diagnosed from the previous malarial history, exclusion of other disease, and size of the spleen. This care in looking for other causes of disease besides malaria may account for the comparative rarity with which we met it. We do not use quinine at Bellevue. I believe that formerly it was excluded on account of its expense. At all events it is not needed, for rarely is a case met with which does not readily yield to the "Compound Cinchonidia mixture" (consisting of cinchonidia sulphate gr. 2, elixir simplex 3 ss., syrup simplex 3 ss.). This is a cheap and fairly palatable emulsion, and I have been frequently struck with the rapidity with which relief follows its use.

Rheumatism occurred in five cases, one of them being an infant of eleven months, in which the disease involved a shoulder and the opposite ankle joints. Under sodium salicylate the baby rapidly got well.

One case of purpura hemorrhagica came under my care during this time. A child of three and one-half months was brought to the dispensary suffering from vomiting, diarrhea, general irritability, and jaundice, indicating an acute gastro-duodenitis. After a month the jaundice and diarrhea gradually improved, and we thought the child was getting better. One day the child was brought with cutaneous hemorrhages on the back, limbs, and abdomen. Several days later it had severe hemorrhages from the nose and mouth. During one of these attacks the baby died. I made the autopsy with the assistance of Dr. F. Huber. Hemorrhagic areas of various sizes were visible on the chest, neck, head, knees, and back. They involved the skin and subcutaneous tissue. Omitting the minor details, we found the thymus gland very much enlarged, and hemorrhages in both lungs, liver, and spleen. The gall-bladder contained bile, and presented no obstruction. The liver was jaundiced. The stomach contained a large quantity of mucus, but no blood. The gastric mucous membrane was quite pale. The kidneys—which were kindly examined microscopically by Dr. H. M. Biggs—showed parenchymatous degeneration; so that this was a case
of purpura hemorrhagica in a child which had almost completely recovered from a previous attack of gastro-duodenitis.

Five syphilitic babies presented with undoubted evidences of congenital disease. One of them developed diphtheritic stomatitis and died. The others improved wonderfully under calomel, and then dropped from observation. I have very rarely met with cases of mercurial poisoning in babies, although I have frequently seen mercurial stomatitis in adults after one or several large doses of calomel. It is amazing what large doses of bichloride of mercury babies and young children can at times tolerate. For a cathartic effect a dose of five grains of calomel will act nicely on the bowels of a child of two years. Where croup is threatening, I have frequently given such a child one-half to one grain of bichloride of mercury in twenty-four hours, and kept it up for days. I have the records of a number of cases in which an attack of croup was cut short under such treatment. But on one or two occasions, it is only proper to add, I have seen traces of blood in the movements.

I have only noted nine cases of anemia. Although this is a state of blood frequently present after any disease of some standing, I have only resorted to the diagnosis in those cases where no distinct evidence of disease existed in the heart, lungs, or other viscera. Iron has been uniformly successful, and where I suspected a cardiac complication I have rarely been disappointed by a combination of the tincture of digitalis and the syrup of the iodide of iron. I was once told by a colleague at the head of the profession that this was a very unstable mixture. I had it, therefore, put up by the dispensary druggist, and found at the end of a week no sign of precipitation or other change. At all events, clinically, I have been well satisfied with the combination.

Scrofulosis was the diagnosis in eighteen of the cases. Under this name I have included that class of cases usually occurring in ill-fed children who have gone through some severe illness like measles, diphtheria, or scarlet fever, and in whom there remained marked glandular enlargement. These children suffered from chronic nasal catarrh, conjunctivitis, otitis media, bronchial inflammations, skin eruptions, and gastro-intestinal disorders. In this disease I have been satisfied with local treatment combined with iron, cod-liver oil, fresh air, and good food.
Eleven children were brought, in which rachitis was the most prominent condition present. Of course this does not by any means represent all of the cases, which presented, for rachitic children with acute inflammations or other palpable diseases, have been put down under their respective headings. The diagnosis was made in those cases which presented such marked symptoms as deformities, cranio-tabes, flabby babies with abnormal dentition, etc. In these cases, besides improving the diet and ordering cod-liver oil, I have been in the habit of prescribing phosphorus. I usually give a half drop to two drops of phosphorated oil in cod-liver oil several times daily. Under this treatment I have frequently been surprised with the rapidity with which the babies begin to improve. I have known cases of cranio-tabes in which the skull in parts was reduced to a very thin layer of bone to thicken in a marvellous manner in the course of several weeks.

Seven cases of marasmus presented during this period. One case I remember very distinctly. It was a young infant at the breast of a mother whose milk was thin, watery, and limited in quantity. The baby was wasted to a skeleton, its face bore the wrinkled expression of old age, and it barely had the strength to raise its head. I ordered the half-starved baby to be put to the bottle, giving it cow's milk diluted with oatmeal water, and cod liver oil was used by inunction. Before a week the child began to improve, and in several weeks you could not recognize it to be the same baby. Although I am a firm believer—from my hospital experience with infants—in the preference to be given to mother’s milk, there are certain cases like the above where I am sure the babies are better off without it. There are many cases, however, in which the mother’s milk ought not to be entirely withdrawn, but ought to be supplemented by appropriate artificial feeding.

Diseases of the nervous system were present in thirteen cases. These, in their order of frequency, consisted of chorea, epilepsy, hydrocephalus, convulsions, meningitis, encephalitis, delayed mental development, and anterior poliomyelitis. Of the five cases of chorea, only one had a distinct cardiac complication (mitral insufficiency). The treatment by arsenic—which dates from the early part of this century—has met with fair results in my hands. Usually the treatment extends over a long period of time, and dispensary cases are apt to drop from observation.
Where arsenic fails to bring relief, and in very bad cases, I resort to the use of chloral hydrate and put the patient to bed. Some years ago, while house physician to Bellevue Hospital, I was well impressed with this treatment in a severe case of chorea under my care. A girl of thirteen years was suffering from a violent form of the disease involving nearly all of the muscles of the body so that the girl could not walk without reeling and falling to the floor. At the suggestion of my visiting physician, the late Dr. McBride, I put the girl to bed and ordered chloral hydrate in ten-grain doses, repeated every two hours. The treatment was continuously kept up during several weeks, the only contra-indications to the regular administration of the remedy being sleep, coolness of the skin, and smallness of the pulse. At no time did symptoms of collapse supervene, and the girl made a complete recovery. I merely suggest this treatment as deserving further trial.

Dr. Jacobi, in his clinical lectures, recommends the use of sulphate of zinc in epilepsy. Although the treatment is referred to by C. J. B. Williams as far back as 1845 (Med. Gaz., Nov. 21st, 1845), it does not seem to have met with much favor in the eyes of the profession in general. Having tried it now for a number of years in private as well as dispensary practice, I can easily add my testimony regarding its value. I have known cases to go on for months without an attack while taking the medicine. In one little girl nearly a year elapsed before a fresh attack of petit mal appeared—long after the treatment had been discontinued. I recently had a dispensary case—seen by my friend Dr. F. Huber—in a little girl who for a long time had been having daily one or two attacks of petit mal. I put her on the zinc treatment, and she reported ten days later having had but one mild attack. I begin with a half grain of the sulphate of zinc, and gradually increase the dose until nausea is developed. This represents the limit of the dose for the individual case. Up to this point the dose is insufficient; beyond this point the dose is in excess. If a drachm of the powder is dissolved in a pint of water, an extra drop may be given with the initial teaspoonful (representing a half grain) progressively until the proper dose is reached. Thus in three weeks the initial dose of a half-grain will be doubled.

The diseases of the eyes, ears, and nose I pass by without further comment, and likewise the surgical diseases. The un-
classified cases include periostitis of the lower jaw, circumscribed lipoma, persistent anterior fontanelle, cardialgia, insomnia, anorexia, insect bite, and swallowing of tacks. Many of these cases represent prominent symptoms, instead of a diagnosis, put down temporarily until further observation could render the exact diagnosis possible. But the majority of these patients failed to report subsequently. The case of congenital deformity of the coccyx—put under the "unclassified cases"—was very interesting. The mother had noticed a redness of the skin and a small circular depression just above the anus from birth, which seemed to pain the child when placed in a sitting posture. On examination, the tip of the apparently elongated coccyx was found to point directly downwards instead of forwards. The point of the coccyx was just beneath and apparently attached to the circular depression referred to. I advised the mother to bend the coccyx forward several times daily. This case dropped from observation, so that I am unable to report the ultimate result of the treatment.

This completes my paper of this evening, which I have tried to make as practical as possible. I have avoided theoretical considerations and literature in order to confine myself mainly to treatment as carried out in dispensary work. I trust that the paper may have the effect of stimulating other members holding dispensary positions to likewise report the results of their gratuitous labors to the poor.

**I. Diseases of the Skin.**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eczema</td>
<td>23</td>
</tr>
<tr>
<td>Erythema</td>
<td>1</td>
</tr>
<tr>
<td>Favus</td>
<td>3</td>
</tr>
<tr>
<td>Intertrigo</td>
<td>4</td>
</tr>
<tr>
<td>Bullae</td>
<td>1</td>
</tr>
<tr>
<td>Furunculosis</td>
<td>5</td>
</tr>
<tr>
<td>Scabies</td>
<td>3</td>
</tr>
<tr>
<td>Herpes</td>
<td>7</td>
</tr>
<tr>
<td>Prurigo</td>
<td>1</td>
</tr>
<tr>
<td>Impetigo</td>
<td>1</td>
</tr>
<tr>
<td>Erythema</td>
<td>1</td>
</tr>
<tr>
<td>Urticaria</td>
<td>8</td>
</tr>
<tr>
<td>Sudamina</td>
<td>1</td>
</tr>
<tr>
<td>Hyperidrosis</td>
<td>1</td>
</tr>
<tr>
<td>Dermatitis exfoliativa</td>
<td>2</td>
</tr>
<tr>
<td>Dermatitis</td>
<td>1</td>
</tr>
<tr>
<td>Phthiriasis</td>
<td>2</td>
</tr>
</tbody>
</table>

**II. Specific Febrile Diseases.**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whooping-cough</td>
<td>72</td>
</tr>
<tr>
<td>Mumps</td>
<td>6</td>
</tr>
<tr>
<td>Measles</td>
<td>2</td>
</tr>
<tr>
<td>German measles</td>
<td>1</td>
</tr>
<tr>
<td>Scarlet fever</td>
<td>2</td>
</tr>
<tr>
<td>Chicken pox</td>
<td>3</td>
</tr>
</tbody>
</table>

**III. Diseases of the Respiratory Organs.**

<table>
<thead>
<tr>
<th>Disease</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laryngitis (simple)</td>
<td>7</td>
</tr>
</tbody>
</table>
Consecutive Cases of Diseases of Children.

Laryngitis (diphtheritic) ............ 1  
Laryngismus stridulus ................ 1  
Bronchitis .......................... 1  
Broncho-pneumonia ................... 1  
Lobar pneumonia ...................... 1  
Pulmonary phthisis ................... 1  
Pleurisy (dry) ...................... 3  
Pleurisy with effusion .............. 2  
Empyema ............................ 1  

--- 305 ---

IV. Diseases of the Vascular Organs.

Endocarditis.
Aortic stenosis ..................... 1  
Mitral insufficiency ................ 1  
Umbilical ........................................ 1  
Palpitation ............................. 1  

--- 50 ---

V. Diseases of the Digestive Organs.

Mouth.
Dentition ...................................... 6  
Hare-lip ..................................... 1  
Paralysis of soft palate .............. 2  
Fissure of soft palate ............... 1  
Catearrhal stomatitis ............... 5  
Aphthous ..................................... 4  
Ulcerative .................................... 2  
Diphtheritic ................................ 1  
Tongue-tie .................................... 1  

Fauces.
Acute tonsillitis .................... 25  
Chronic ..................................... 3  
Follicular ................................... 2  
Diphtheritic .............................. 18  
Pharyngitis .............................. 9  

Stomach and Bowels.
Gastric dyspepsia ................... 19  
Gastritis ................................... 6  
Gastro-enteritis ...................... 59  
Diarrhea ................................... 64  
Constipation ............................. 13  
Intestinal colic ....................... 8  
Enteritis .................................. 1  
Dysentery ................................... 17  

Round worms ......................... 6  
Tape worms ............................... 2  
Inguinal hernia ....................... 2  
Umbilical ................................... 1  
Prolapse of the rectum .............. 6  

--- 287 ---

VI. Diseases of the Genito-Urinary Organs.

Acute nephritis ....................... 1  
Chronic ...................................... 2  
Suppression of urine ................ 1  
Cystitis ................................... 1  
Incontinence of urine ............. 7  
Hydrocele .................................. 2  
Phimosis .................................. 1  
Orchitis .................................... 4  
Vaginitis ................................. 1  

--- 21 ---

VII. General Diseases.

Intermittent fever.
Quotidian ague ....................... 15  
Tertian ...................................... 4  
Chronic malaria ....................... 15  

Articular rheumatism.
Acute rheumatism ................... 1  
Subacute .................................... 3  
Chronic ...................................... 1  
Muscular rheumatism ............... 1  
Arthritis .................................... 2  
Purpura ...................................... 1  
Syphilis ...................................... 8  
Anemia ....................................... 9  
Scrofulosis ............................... 20  
Rachitis .................................... 11  
Marasmus .................................... 7  

--- 98 ---

VIII. Diseases of the Nervous System.

Hydrocephalus ......................... 2  
Convulsions .............................. 1  
Chorea ....................................... 5  
Epilepsy .................................... 2  
Meningo-encephalitis ............... 1  
Delayed mental development ........ 1  
Poliomyelitis anterior .............. 1  

--- 13 ---
A CASE OF COMPLETE VAGINAL PROLAPSE TREATED SUCCESSFULLY BY CLOSURE OF THE VAGINA.—ABSENCE OF THE UTERUS.

BY

L. S. STONE, M.D.,
Member So. Surg. and Gynecological Ass'n, British Gynecological Society, etc., Lincoln, Va.

MRS. M——, aged 65, was brought under my care on April 9th, 1887, for complete vaginal prolapse. She had borne five children, had a lacerated perineum, and had for twenty years worn a large glass-ball pessary, or was obliged to suffer the discomfort of the prolapse. The pressure of the pessary had caused so much irritation that it could no longer be worn, and hence she was driven...
to have something done for her relief. On making a careful examination of the tumor, it was with no little surprise that I failed to discover a vestige of her uterus. There was no opening where a probe would enter, nor was there by palpation any sign of ovary or uterus to be found, although the inversion of the vagina afforded every facility for their discovery. It is quite possible that complete atrophy had taken place, a result of the long-continued maceration of the abdominal and pelvic contents (mainly intestine) upon the uterus, it having the hard, unyielding pessary below it.

The patient readily agreed to my proposal to narrow the vagina, which was done after Emmet, as modified by Reamy (see Med. News, April 9th, 1887; also Goodell, p. 238, last edition). The anterior colporrhaphy was completed by extending the denudation around the cystoceles like an inverted X. Black silk sutures were used within the vagina, as they are easily found and removed. Wire was used in closing the perineum, and as usual cut the tissues slightly upon removal. (I have since used silk, catgut, and silk-worm gut, and greatly prefer the latter, as it is easily removed and can be allowed to remain indefinitely without slipping or otherwise causing trouble.) The result appeared perfect, and the patient was apparently cured. Her health was greatly improved, and for four months she was well. But, owing to perfect confidence in her ability to take any kind of exercise, she had a relapse (she was once known to jump from a high vehicle to the ground), I was again consulted, and after much persuasion she consented to have the vagina closed permanently. As the greater part of the former work was obliterated, I saw that no mere narrowing could withstand the superimposed weight of pelvic contents, and resolved to denude the surfaces of the cystocele and rectocele and fasten them firmly together; then, by nearly closing the vulva, a firm point of obstruction could be made to oppose the prolapse. A complete inversion of the vagina must elongate all ligamentous attachments beyond possibility of permanent restoration. All cellular tissue must be torn or stretched beyond further usefulness. Therefore, the greater part of the vagina, certainly the roof thereof, must fall of its own weight, even if narrowed to perfect closure from within. But, by securing a union between broad surfaces of attachment over the cysto- and rectocele, I hoped to securely prevent further trouble, as it appeared unwise to attempt Dr. H. M. Sims' procedure, by abdominal section, until other resources failed. The result was perfect, and although eighteen months have elapsed since then, the patient is well and has had no sign of return. The catgut sutures used in the closure permitted the parts to remain undisturbed, and were of course absorbed. The vulva was closed by deep exposure of muscular tissue, much after the style known in England as Tait's method. The result has justified the means in this case, although there is not a complete closure, as fluids can be used by means of a syringe for purposes of cleanliness.
CORRESPONDENCE.

Editor of American Journal of Obstetrics.

TAIT VS. MORRILL ON RUPTURED TUBAL PREGNANCY.

Sir:—On page 1175 of the October number of this Journal there is an article of Dr. Morrill’s in which the following sentence occurs, on page 1177: “Even many cases in which the abdomen has been opened (Tait’s cases) all that has been found has been a quantity of blood without any fetus, placenta, or any positive evidence of extra-uterine pregnancy.” Permit me to say that this sentence is absolutely incorrect, in so far as my cases are concerned. In a large number of them, the ovum was found, and in every one of them the placenta was removed with the ruptured and disorganized tube. The preparations of all the instances have been publicly exhibited, chiefly before the British Gynecological Society, the Fellows of which are neither so lazy nor so ignorant as to permit to pass unchallenged anything which does not commend itself to their acquiescence. The naked-eye appearance of placental growth has been in a great majority of instances confirmed by microscopic investigation. Finally, my preparations, with very few exceptions, are now publicly exhibited in the museums of the Royal Colleges of Surgeons and Queen’s College, Birmingham, and Dr. Morrill’s statement is as gratuitous as it is unjustifiable.

Let me further say of Dr. Morrill’s paper that it exhibits throughout an absolute ignorance of the pathology of the condition of which he was speaking. He clearly has not the faintest grasp of the fact that the ruptured tubal pregnancy causes dangerous intra-peritoneal hematocele, every case of which has a likelihood of proving fatal. He just as clearly shut his eyes to the fact that extra-peritoneal and broad ligament hematocele when it arises, which it does certainly in a number of instances, from ruptured tubal pregnancy, or whatever cause, is rarely, if ever, fatal, and generally may be left alone. In fact, he has not obtained even a farthing dip’s worth of light on the subject which he has ventured to write about. This is clearly proved
Correspondence.

by the extraordinary statement upon page 1183, that, "if it had been extra-uterine pregnancy, there would have been some symptoms, but the temperature did not indicate it." A more perfect proof of his want of experience on the subject than is displayed by this sentence could not easily be conceived.

I am, etc.,

Lawson Tait.

DR. MORRILL'S REPLY.

To the Editor of American Journal of Obstetrics.

Dear Sir:—Mr. Tait's criticism of my article is couched in the usual forcible and discourteous language which he invariably adopts when he addresses himself to an American physician who ventures to assert views which do not coincide with his own. The term "gratuitous" is equally applicable to the contents of his letter. Not having been able to attend the meetings of the British Gynecological Society and to see the specimens of tubal pregnancy which "have been publicly exhibited" there, I, in common with my countrymen, am obliged to take Mr. Tait's word as to their authenticity. He evidently inferred from the parenthetical expression "Tait's cases" that I made the sweeping assertion that he had never found positive evidence of tubal pregnancy. I simply referred to case XXXII., which he himself reported in the satellite of the Annual of the Universal Medical Sciences, Vol. I., pages 116 and 117, of which he says: "Opened her abdomen on May 6th, and found a tubal pregnancy on the right side; but the whole thing was so infiltrated with clots and rotten that nothing could be identified, except the stump of the broad ligament, to which the disintegrating masses of the remnants of the Fallopian tubes were attached." Besides this positive statement regarding the absence of both the fetus and the placenta, it will be evident to any one who reviews carefully the other published cases that the specimens removed were often so disintegrated that there was doubt as to their true character. Moreover, in the reports there is no mention of any microscopical examination having been made. Judging from the remarks made by prominent gynecologists during various discussions on tubal pregnancy, it is clear that many others have found Mr. Tait's reports rather vague. So much for the mountain that he has made

26
out of a mole-hill. Now for the second point in his letter. I would respectfully ask what right Mr. Tait has to charge me with "absolute ignorance regarding the pathology of the condition of which I was speaking." Was Mr. Tait invited to take part in the discussion of my paper, or does he hope to shed a flood of light upon the matter to assist the feeble radiance of my "farthing dip"? Whatever his motive may be, I would call his attention to the fact that American physicians are unanimous in their opinion that his eminence as a laparatomist does not entitle him to enter unbidden into every society discussion in this country in which his name happens to be mentioned, and to publicly cast ridicule in ungentlemanly terms upon those whose experience is not equal to his own. To dismiss his criticism of my pathology in as few words as possible, let me say that my paper did not deal with ruptured tubal pregnancy at all, but with hematocele due to other causes. The patient never presented any symptoms of tubal pregnancy, nor have I ever considered her case as such. I am unable to see how Mr. Tait could infer from my paper, which he clearly looked over very hastily, my ignorance of the fact that "ruptured tubal pregnancy causes dangerous intra-peritoneal hematocele," or that I do not recognize the less dangerous extra-peritoneal variety. I regard my case as an example of intra-peritoneal hematocele, for reasons stated in the paper, viz., the sudden onset of the symptoms, which were of the most alarming character, and the rapid filling up of Douglas' pouch with blood. With regard to the sentence which especially evokes Mr. Tait's contempt, I would say that the stenographer is responsible for its lack of clearness. What I said was that the patient previous to the accident exhibited none of the symptoms which we regard as characteristic of ectopic gestation, and that in a case in which there was rupture of such a sac, with the escape of its contents into the abdominal cavity, if the patient survived the shock she would certainly be more likely to have peritonitis than if the condition was one of simple intra-peritoneal hematocele due to other causes. As my patient's temperature did not rise above 100°, and there was an entire absence of peritonitis, I felt that was one argument in favor of the latter condition. Regarding my "want of experience," I would merely add that it is rather amusing than otherwise to observe the position that Mr. Tait assumes in virtue of his unquestioned pre-eminence as a laparatomist. He evidently thinks that no other man should be allowed to report a gynecological case or to express an opinion because his experience is so limited as compared with that of the Bir-
mingham surgeon. In all discussions with this gentleman, whenever the question of experience arises, his opponent must necessarily acknowledge his own inferiority; but there is always left him the consoling thought that it is less difficult to surpass Mr. Tait in courtesy.

Respectfully yours,

J. Lee Morrill.

67 East 79th Street.

[This purely personal controversy is herewith closed, so far as this Journal is concerned.—Ed.]

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, December 18th, 1888.

The President, Dr. H. T. Hanks, in the Chair.

FETAL MONSTROSITY WITHOUT A TRACE OF BODY.

Dr. H. J. Boldt presented the specimen with the following history:

The specimen presented this evening is a mass which was expelled from the uterus of a woman 33 years of age, immediately after the birth of her sixth child, and prior to the expulsion of the placenta. In its descent, it appeared to the touch as another head; and it was believed, by the attending midwife, that a second child was about to be born, but subsequent developments proved that only a head-like mass existed.

After the delivery of this mass and the placenta, which was unusually large, an examination showed that the child, which was normal, and this monstrosity had placenta and membranes in common, but that each had its umbilical cord. The cord from the child had a central attachment to the placenta, while that from the monster had a marginal attachment.

This specimen measures three and three-quarter inches in the long diameter, two and three-quarter inches in the transverse diameter, and three inches in the vertical diameter. On close inspection, it has the appearance of a head with two imperfectly developed faces. The faces are on the inferior aspect of the mass, and their crowns point in opposite directions. In one of these it will be noticed that there are two sulci, which may be taken to represent the seat of the eyes, and a small, pedunculated fleshy-
growth—the rudimentary nose. There is neither mouth nor ears.

The other face shows one deep slit, oblique in direction, and a shallow sulcus, which mark the places for eyes. The nose is a pedunculated piece of flesh, the size of a hazel-nut. The mouth is well marked, with an upper hare-lip and a well-developed lower lip. There are no ears. Above the places for eyes is a growth of very fine hair, which is not noticeable on the other face.

When the specimen was quite fresh it contained two or three ounces of a viscid liquid, but an accident, which broke the skin, permitted this to escape. Examination by transmitted light showed the outlines of cartilaginous plates, which, it may be assumed, were destined to be two frontal and two parietal bones.

These plates had dark spots, suggesting centres of ossification. The space between the plates included a greater part of the superior surface of the masses, and, particularly in two places, the skin was very thin and transparent.

It will be noticed that the umbilical attachment is on a plane midway between the faces, but a little to one side of a line drawn from nose to nose.

In looking over the literature of monstrosities, no record can be found of a monster without a trunk. It seems evident that this case is an unusual one, and is therefore interesting.

No dissection was made, as it was desired to present the specimen with its original features. Some shrinkage has occurred, due to immersion in alcohol.

The President inquired whether the living child was perfectly formed.
Dr. Boldt replied in the affirmative.

Dr. Ingram (present by invitation), who had seen the specimen with Dr. Boldt, and looked up the literature, said: When the specimen was fresh it presented a very different appearance. It was distended with a fluid, was translucent, and one could map out distinctly the margins of cartilaginous plates, and on one side the presence of harelip was very plain indeed. The other face was perhaps even a little more distinct. The specimen has lain in alcohol for several days, which has caused it to shrink; and to further mar its natural appearance, it fell while being photographed and burst, its contents escaping.

Dr. E. H. Grandin.—The specimen is unique, and for that reason I hope it will be referred to our pathologist for examination. Some time ago I looked over the literature of monstrosities very thoroughly, and I do not remember a single instance in which the head was represented without even a rudimentary trunk. It is for this reason, and because Dr. Boldt's specimen in its present condition does not appear to me to show distinctly a second face, that I would like to have it go to the pathologist. Indeed, what to his eyes seems to represent a face, to me suggests an anus with a fringe of hemorrhoids.

PERITYPHilitic ABSCESS—LAPARATOMY—RECOVERY.

Dr. W. Gill Wylie.—This specimen was removed from a man, but it is one of interest to gynecologists. I saw the patient with Dr. Jacobus, and he will report the case elsewhere in detail. The point in treatment which I had an opportunity to carry out, and wish to call attention to this evening, is one which has been neglected by general surgeons, and to a less degree by gynecologists. The man had symptoms of a local peritonitis on Tuesday, and on the following Thursday, Dr. Jacobus thought he could make out a tumor the size of a lemon on the right side of the abdomen. The man was rather muscular, which made the diagnosis of tumor difficult. It was the doctor's intention to operate the next day, should an abscess be present, but during the night the patient had violent pain, and early next morning went into partial collapse, with all the symptoms of general peritonitis. I saw the patient at half-past ten and operated, making the usual incision for perityphilitic abscess. The peritoneum was inflamed, and what seemed to be an adherent sac presented. It was concluded that if there had been an abscess it had burst, and it was decided to open the abdomen freely in the median line; in other words, to make an exploratory incision. As soon as I opened the peritoneum through the central incision, a profuse amount of purulent serum escaped, as would be expected in septic peritonitis. The intestines were covered by a milk-like film, and were extensively adherent. The finger was passed down towards the cecum and vermiform appendix and an abscess was readily discovered. The adhesions were broken up, a drainage tube was passed down, attached to a fountain syringe which held about two gallons of water, and the cavity was thoroughly washed. The finger was then introduced
into the sac, and what appeared to be a bean was taken out. The abscess had probably been two or three inches long by one or two in width. The appendix was adherent to it in the direction of the liver. No fecal matter was present in the peritoneal cavity, and very little gas, and it was not thought advisable to search for a possible opening in the gut. But I did not rest satisfied with simply opening the abdomen, letting out pus and putting in a drainage tube, as has been done by one or two surgeons lately in published cases. I think it is very important in all cases of peritonitis, particularly in general peritonitis, to break up all adhesions, for two reasons: first, little collections of pus form in the pouches where the peritoneum becomes adherent to the coils of intestine, and are likely to give rise to sepsis and thus cause a fatal termination; second, by breaking up such adhesions we lessen the danger of intestinal obstruction, which danger I regard as almost as great as that from sepsis. I therefore broke up all adhesions and washed out the abdomen with at least six gallons of fluid until it came away perfectly clean; then introduced two drainage tubes—one through the lateral opening, which I enlarged, and one through the median opening. The wounds were then closed, and the man recovered without a mishap.

The one fact which I wish to emphasize is the necessity for breaking up the adhesions when operating in a case of peritonitis.

Had I found a large pelvic abscess, I should not have treated it as some eminent surgeons have recommended, including Mr. Tait, namely, to simply open the abscess, wash it out, and then sew the walls of the abscess to the abdominal wound. I have always regarded the sewing of the walls of the sac into the abdominal wound a faulty procedure. I have always introduced a trocar and canula into the abscess, allowed the contents to escape through the canula, washed out the sac thoroughly through the canula, allowing no pus to escape into the peritoneum, rendered the sac aseptic by bichloride solution as strong as 1:2,000 to 1:3,000, then removed the sac and trusted to drainage, not stitching it to the abdominal wall.

The President.—The two points raised by Dr. Wylie are important ones, the first referring to breaking up of adhesions in peritonitis, and the other to the enucleation of the sac in pelvic abscess. It has been my custom, and it probably has been that of many others, to fasten the walls of the abscess to the abdominal wound, and sometimes for six, twelve, or even eighteen months afterwards there has been trouble from a suppurating wound in the abdominal wall. I have such a case under my care at present.

Dr. Wylie.—In the considerable number of cases which I have operated upon, I have employed only the one method, that of removing the sac, except in one instance, that of a patient who was dying of shock during the operation. The result has usually been successful.
CASE OF GYNECOMAZIA.

Dr. A. C. Coe related the history of a case of abnormal development of the breasts in a colored man, who had failed to keep his promise to be present. He was indebted to Dr. Myers, of the Presbyterian Hospital Dispensary, for the privilege of seeing the man. His age is 19. He was rather precocious sexually. At 13 he began to indulge in sexual intercourse, and also self-abuse; and at about that time he observed that his breasts were becoming considerably enlarged. There was occasionally a sore feeling in them, especially during sexual excitement, and there seemed to be a direct relation between the two conditions. At present the breasts were at least four or five inches in diameter, showed a distinct glandular structure, and had well-marked areolæ around the prominent nipples. The case is interesting, because the sexual organs were fully developed, the voice was a deep base, and the man was in no way effeminate. As a rule, enlarged breasts in men had attended atrophy, or loss of the testicles, and the persons had not been active sexually.

CYST OF THE BROAD LIGAMENT—LAPARATOMY—ANOMALOUS COURSE OF THE URETER.

Dr. W. Gill Wylie.—I have seen a case recently which interested me very much. It was that of a patient whom I first saw about three years ago while doing an operation in Connecticut. The doctor who invited me to see her stated that she had been an invalid for a number of years from trouble with the bladder, and attacks of what he supposed to be local peritonitis. I found the uterus fixed by exudations, as I supposed, pronounced it a case of salpingitis, and told the patient she would probably require an operation some time before she would get well.

About five days ago she was brought down from the country, and they were in a hurry to have her operated upon; but the history of the case had changed considerably. She had not had any attacks of peritonitis, but did have attacks of violent pain, starting in the right side, and passing down the pelvis. The pain was so severe that she had to take large doses of morphia or chloroform. Her doctor had examined the urine frequently, and almost invariably had found it laden with pus, it sometimes containing as much as a teacupful; but at times it was clear. She could always tell when she was about to have a severe attack, by the fact that the urine would become clear, and she would "swell up," as she expressed herself. When the attack came on, pus would again appear in the bladder. These symptoms pointed to an abscess or salpingitis opening into the bladder; but I was unwilling to make a positive diagnosis.

On examination the uterus was found fixed on either side by exudation, and a tumor as large as my fist was present on the right. Her general health was pretty good. There was this pecu-
liarity in the history of the case, that she had long had more or less trouble with the bladder, and still referred her trouble to the region of the bladder and not of the kidneys. Two of her sisters and her father had passed stones from the kidney.

I agreed to etherize the patient, and if evidence were found of fluid in the tumor on the right side, to puncture it with a trocar and cannula, and if it contained pus that fact would point to a pelvic abscess which had opened into the bladder. If I could not make counter-drainage safely in that way, I would make an exploratory incision. I used a curved trocar, punctured the tumor, which was low down in the pelvis, and to the great surprise of her doctor, and somewhat to my own, six ounces of a nearly clear fluid, containing a little granular matter, escaped. It was apparently fluid from a cyst of the broad ligament. On examination the uterus was found still fixed, and there were present evidences of salpingitis. It was decided to open the abdomen, and if salpingitis were present, to remove the appendages. The peritoneum was found somewhat thickened from old peritonitis. The uterus was completely imbedded low down in the pelvis, both sides being held firm by adhesions. The broad ligaments were turned backwards, and a peculiar cord stretched from the right side of the pelvis near the cornu of the uterus up in the direction of the kidney. It was covered by peritoneum, and stretched much like a string across and above the brim of the pelvis. It was evidently a pyogenic tract nearly as large as my little finger. On pressing it up I found a mulberry stone the size of the end of my finger imbedded in the wall of the ureter, and two other stones could be made out higher up, near the kidney. The cyst of the broad ligament, which we had emptied, had lifted this ureter up, and then long-continued inflammation of the ureter had evidently shortened it and made it appear like a cord stretched across the pelvis in that peculiar way.

Not having permission of the patient to proceed further, and not knowing the condition of the other kidney, I closed the abdominal wound, and she has done well since the operation. If, after examination of the urine, it is determined that the left kidney is sound, I will remove the right kidney. I feel positive that if it is allowed to remain a pyelonephrosis will result.

What interested me as a gynecologist was the fact that the ureter could be lifted up into such a position, and the peculiar relations which it bore to the broad ligament, starting apparently from the top of the broad ligament, instead of passing under it. It had evidently been raised up by inflammatory conditions. I am satisfied that the ureter is not infrequently injured in tearing out the adherent tube and ovary on the right side. In two cases this year I found the veriform appendix drawn down and adherent to the diseased tube and ovary. This condition has been present in several of my cases, and in two the appendix was so diseased as to make it necessary to tie off a portion of it.
The President.—The case of Dr. Wylie's, in which there was displacement of the ureter, reminds me of one in which the history has been of further interest since the case was first reported at this Society. There was an ovarian cyst with papillomatous degeneration. At the close of the operation the base of the tumor was fixed in the abdominal wound. Six months afterwards another tumor developed on the base, and in removing it I was obliged to draw the peritoneum and uterus so far up that it was necessary to remove the fundus of the uterus and unite the stump with the abdominal wound. The suture was passed so near the ureter on the right side that, when suppuration took place about five or six days after the operation, urine began to trickle through the wound. The ureter, therefore, must have been raised to within half an inch of the integument at the abdominal opening. The patient has improved, but has been obliged to wear a cotton pad to absorb the urine. Lately a shield with a rubber tube attached has been substituted. She has gained 15 lbs. in weight.

The case demonstrates as a fact that these pelvic tumors do sometimes displace the ureter in an unexpected way. In this patient the papillomatous growth is developing again around the abdominal wound, and will necessitate another operation. It is also probable the kidney will have to be removed. Dr. Wylie will remove the kidney and ureter in his case through the abdominal wound, I presume.

Dr. Wylie.—Yes; I could not reach the stones in any other way.

Improved Cheap Cell for Electrolysis.

Dr. Buckmaster.—I present a cell for use in electrolysis which I have lately improved to a considerable extent since it was shown at the Academy of Medicine. Its principal advantage is that it is inexpensive. The chloride of ammonium solution is used as an exciting fluid. The carbon surface has been dulled, thus rendering it less liable to become polarized. The cell consists of an ordinary pint-jar, the elements passing through a perforated wooden disc.

Dr. E. L. Partridge read a paper entitled

Disorders of the Kidney during Pregnancy, in Relation to the Induction of Labor.

The interruption of gestation as a necessity to the safety of mother, or child, or of both, is an occurrence of no great rarity. In many of the conditions which have come into the category of those calling for such interference—as a medical necessity—it is interesting to recall that the suggestion of such measure, for each given condition, has come to us originally from our observation of what unaided nature has done under the same circumstances.

The results as we have thus observed them have shown us the value of such natural resources, and have led us to as near an imitation of them as possible. A method of practice which obtains its recognized position in this way necessarily comes to stay, and is on a better basis than that of preconceived theory. In other conditions, however, the induction of labor has been established as
proper treatment because of the failure on the part of nature to meet the dangers of certain states.

It is not my intention to consider my subject in an exhaustive way. "I have no new principles to enunciate. My intention is to offer a personal experience in this direction, with such remarks as are thus suggested.

The various resources at the disposal of the operator are well known, and the methods of their use very familiar to all of us. It is the approach to the operation that is chiefly interesting. We study the premises, weigh the facts, and estimate the dangers of operation, and of delay. These considerations apply to two individuals. We endeavor to give the proper, subordinate importance to the child, while we know that the saving of two lives is the desideratum.

The problem does not lose interest in its repetition. To decide whether or not to interfere, and in cases of interference to determine the proper time, is interesting always, and often of great importance. It is true that in the latter months the subject may not be vital, yet we like to attain results by that decision and method of treatment which, in a given case, will be the best of several, even if all are reasonably proper.

The question of the induction of labor in connection with disturbance of the renal function is one which has occasioned much discussion. I think no one would now hold that this treatment is never demanded when we meet with albuminuria in pregnancy. Yet to be able to decide just when it is called for in order to save life, or to prevent the establishment or extension of nephritis, is often a delicate question.

My first proposition would be that in order to judge correctly of the need of interference with gestation, we must know more, in a given case, than the present facts of albuminuria, elimination of urea, nervous susceptibility, and other associated clinical phenomena. This latter knowledge will be enough, and all which we can readily obtain, in a large proportion of cases to furnish basis for interference or non-interference, as the need may be. Yet we may meet with cases of albuminuria in the course of pregnancy, presenting urinary signs which, by themselves, may give us little or no uneasiness, when a knowledge of the previous history would give occasion for prompt action. To better illustrate my meaning I will give some reports of cases.

Mrs. R. came under my professional care in October, 1883, she being then in her second pregnancy. Her first labor occurred about three years before, and was premature at the eighth month. It was associated with alarming uremic symptoms, of cerebral character. She was watched by her physician for many subsequent months, largely by way of urinary examinations, and within a few weeks the urine became and continued normal.

When I saw her in October, 1883, she had just reached the city after a long journey by water. She was at the end of the sixth
month, had scanty urine, containing a large amount of albumin, and granular and hyaline casts. Both pleural cavities contained considerable amount of fluid—the right being half full—with some fluid in the pericardium. Pulse was weak and rapid. She was without head symptoms. Dr. Fordyce Barker, who saw her in consultation, advised no interference with the uterus. She grew worse for forty-eight hours, when labor came on spontaneously, and she was delivered of twins. Immediate improvement took place. Casts disappeared, and within two weeks albumin was absent. My urinary examinations were made weekly for six months, and during this time the urine was normal in specific gravity, containing no albumin nor casts, and the patient considered herself in her usual health. From this time occasional examinations of the urine were negative.

In the spring of 1887, she found herself again pregnant, but felt in perfect health. Thinking that it should be necessary, in all probability, to interrupt her pregnancy, as renal symptoms would be likely to arise, and that in mid-summer difficulty in obtaining consultation might be met with, I asked her husband to meet me at the office of a distinguished physician of this city. The latter heard the history and agreed that it might be necessary to bring on labor at some time during her pregnancy. He thought, however, that she might not have serious kidney trouble this time, and said that, when albumin appeared, if it continued to be present with a tendency to increase, he would advice induction of labor. Patient continued to be well until August 16th, when a faint trace of albumin was discovered. She was then five and one-half months pregnant. The albumin was present for several days and then disappeared. From August 21st to 25th there was none. Albumin then reappeared, but was in very small amount, and did not increase until September 5th, when there was a distinct increase (fifteen per cent by bulk), and hyaline and granular casts were found for the first time. September 8th, the patient feeling well, and free from any subjective symptoms of kidney disorder, the catheter was introduced into the uterus. September 9th, catheter re-introduced, little uterine action having been excited the previous day. September 10th, the child was born, twenty-three hours after last introduction of the catheter and eighteen hours after labor began. Urine was passed in good quantity, but immediately after labor contained fifty per cent of albumin. In a week the albumin disappeared and during the next two weeks she seemed in every way to have recovered. At this time albumin was again found, with a few casts, and the usual indications of chronic nephritis gradually presented themselves. Four months later death occurred in a way typical of the disease.

Another history which I will read is as follows: Mrs. R., age 32, first pregnancy, was confined at term in August, 1881. When eight months pregnant, the urine showed faint trace of albumin. Two weeks later this had increased to a deposit of three-quarters in the test tube. The urine continued with this amount of albumin, though normal in quantity. General anasarca was present, but no uremic symptoms. Circulation good, patient cheerful, no headaches nor stomach disturbance. The usual treatment was employed. Dr. Gillette in consultation agreed with me that no interference was necessary. Labor August 11th, assisted by chloral, Barnes' bags and forceps. Pulse soft and natural. There were no uremic symptoms, except slight muscular twitch
ings for several hours after labor. Convalescence was good and careful observations failed to show an abnormal state of the urine at any time after the first ten days. She remained as my patient, but never presented symptoms of renal trouble. In December, 1884, she again became pregnant, and until six months advanced the urine was normal. Then albumin appeared and within a few days rapidly increased. Without other warning she suddenly became uremic, and a convulsion occurred. Dr. Gillette saw her with me. The arterial tension was marked, pulse rapid. Labor came on spontaneously and in ten hours a sixth months' fetus was born. Vesession and morphine improved the circulation, and though she had four convulsions, the labor was safely accomplished. Convalescence was good. Close watch was kept upon the urine which speedily became normal and so continued. She became pregnant again in March, 1888, and the urine received frequent and careful attention from this time. Until August 1st it was normal chemically and microscopically, in normal quantity, with normal specific gravity. From August 1st to September 9th a faint trace of albumin was present, the urine being normal in amount, with sp. gr. 1.016 and over, except once when it was 1.014. September 9th, sp. gr. 1.010 and albumen distinctly increased. Casts were present.

September 12th, labor was induced, the urine at this time being normal in amount and albumin present to the extent of two or three per cent by bulk. Twenty-four hours after introduction of the bougie, and seventeen hours after labor pains began, the urine was loaded with albumin. Her labor was under the care of Dr. J. F. Russell. She gave birth to the child after twenty-two hours of uterine action, and at the same time a convulsion occurred. Twenty-six hours later she died uremic, having had convulsive seizures pretty constantly.

A third case may be related in connection with these, though in this, happily, no fatal result occurred. Mrs. F. became pregnant in December, 1887. She had the previous history of child-bearing eight years before, at which time she had uremic convulsions. She recovered speedily from the confinement and from that time had endeavored to avoid conception. Her health had been good ever since, except that she had occasional, severe headaches which would last several days. As soon as there was a suspicion of this second pregnancy, the question of interruption was raised by her husband. (For she had been kept in ignorance of the dangers through which she had passed at the time of her first labor). I advised delay until we could be certain that she was pregnant, and that, in such event, a consultation to consider the question be held by her former attendants and myself. We were spared this conference, however, owing to spontaneous abortion when she was beginning the third month. The urine at this time was normal in specific gravity and chemically. The miscarriage was not attended by unusual circumstances. Almost immediately after it, she began to suffer from headache, which was persistent and most of the time very severe. It was characterized by throbbing, not only in the head, but in her face and lips. Her pulse was hard, with marked tension. More than two weeks elapsed before she was free from this distress, although she was kept well under, first, chloral, and then morphia. She was not a person to exaggerate her symptoms, and it was very evident that light and movements—her own movements, even sitting up in bed—and
sounds about her added much to her discomfort. The distress gradually left her. Dr. Delafieid, who saw her, regarded her condition as typical of uremic, circulatory disturbance. From her previous medical attendant I learned that a condition of chronic diffuse nephritis was undoubted. This belief was based on his wide experience in such conditions, and his close knowledge of her. Since her recovery from this attack, she has been in her usual health.

In this latter case I felt confident that, without interruption of gestation, either spontaneous or artificial, at an early period, most grave consequences would have resulted.

These cases illustrate that we may meet with a condition of the kidney which, associated with pregnancy, may result in irremediable harm without the presence of any of the urinary signs which we are in the habit of associating with serious renal disease connected with pregnancy, and which latter signs we might through mistake wait for before taking the radical step of emptying the uterus. In the first case we had albumin present for the first time three weeks before labor, and the largest amounts—about fifteen per cent by bulk—for four days only before induction of labor, specific gravity being normal and casts found for three days only.

In the second case, trace of albumin only was seen for six weeks before labor, urine normal in specific gravity and amount. Three days before operation, albumin increased to not more than three per cent by bulk, and specific gravity 1.010 on one occasion only. In the third case, at a time when the urine was normal, miscarriage at two and a half months was immediately followed by serious uremic disturbance, when, up to that time, there had been nothing in the symptoms to cause suspicion of any grave disorder of the kidney.

The cases just reported belong undoubtedy in the class of chronic nephritis.

I confess that I have always been sceptical regarding the view that true convulsions can occur in connection with parturiency as the result of nervous disturbance of a reflex kind and without disturbance of the renal function as an intervening link. The belief that the kidney disturbance follows the convulsion in many cases is held by some, and others look upon uremia as playing a small part only in the etiology of puerperal convulsions.

Without going into a lengthy discussion of the whole subject, we may say that the chief arguments used in support of these views come from the fact that, in our study of kidney disease unassociated with pregnancy, we are not in the habit of seeing violent and sudden uremic outbreaks, such as we meet with in puerperal eclampsia.

Another support of these views lies in the occasional report of a case of puerperal eclampsia in which antecedent renal symptoms and urinary signs have not been observed by the reporter.

To meet the first of these arguments, I would say that when we consider the greatly altered blood state of the puerperal woman, her exalted nervous sensibility, and the persisting and increasing
influence of the exciting cause of the trouble, viz., the advancing pregnancy, we should expect modifications looking toward greater intensity of the uremic outbreak.

Regarding the second argument, I would modestly and respectfully suggest that the observer may be at fault in a failure to notice the preliminary urinary signs. The cases reported go to show that these signs may be very slight. Had I been a stranger to the previous histories, in the cases related, I can easily believe that my observations before the uremic attacks would not have been frequent or careful enough to detect such urinary symptoms as I should have regarded as characteristic of impending serious trouble.

The experience of every one here would support the statement, that as soon as labor begins the increase of albumin and appearance of casts occur very suddenly. It is quite possible that the busy practitioner may then for the first time—and often after a convolution has occurred—discover these signs. In a number of the cases reported by those who claim that the convolution is followed by the urinary signs, it is a noteworthy fact that it has been about the middle of pregnancy that the grave illness has appeared.

In my cases, there was undoubtedly chronic diffuse nephritis behind the puerperal attacks, present, as is often the case, in an insidious manner. Is it not possible that this is true in other cases reported? My personal experience, with more than fifty cases of eclampsia, affords no instance in which urinary signs or a history of renal trouble has not preceded eclampsia. In several cases viewed otherwise, which have been personally related to me, there has always been a failure of such accurate observation as would make the cases at all convincing, at least to me.

Passing from this consideration of the subject of my paper, I would like to state my conviction, that in all cases where there is a reasonable probability that chronic nephritis exists, no matter how slight the degree, pregnancy should be interrupted just as early as gestation is known to exist. This is the course I have taken in several other such cases without subsequent regret, and it is the treatment which I think would have modified the results in the first two cases reported.

Such treatment cannot, of course, cure nephritis, nor prevent the natural progress of the disease, but it removes one important element of danger.

Interrupt the pregnancy, and do it by such means and by such close attention which will make the period of uterine action which is necessary just as short as possible.

We turn now to the condition which is generally considered under the term "Albuminuria of Pregnancy." This presents instances in which, without antecedent renal disease, we have in the course of pregnancy—generally in the latter months—albumin
present in considerable quantity, say from twenty to fifty or sixty per cent by bulk. The question of induction of labor here presents itself in a different way, and calls for close consideration of temperament, surroundings, general condition of patient, as well as the local renal state.

It was not my intention to go very deeply into this subject. Here we have no organic affection, but an hyperemia of the kidneys. This may or may not seriously interfere with a safe performance of their function. It cannot be much modified by treatment while pregnancy continues, yet it may not endanger the life of mother or of child, even if continuing for several weeks. That the condition may initiate organic disease cannot be denied, yet clinical facts do not seem to indicate this result as a frequent occurrence.

In my judgment each case of this nature must be considered by itself. No general rule of treatment will suffice. In our critical regard of such cases, the most important consideration will be the presence or absence of systemic indications of non-elimination by the kidneys of the excrementitious materials which it is their function to carry off—indications other than the degree of albuminuria.

The specific gravity does not seem to aid us very much in prognosis either, for it will vary between 1.014 and 1.025, having little or no relation to the degree of albuminuria. It will be affected to some extent, undoubtedly, by the amount of urine secreted, but the latter can be as easily ascertained as the former. While, therefore, a knowledge regarding specific gravity may assist us, it affords, in the majority of cases, no conclusive evidence as to prognosis.

The symptoms of non-elimination would be sleeplessness, headache, ringing in the ears, sparks before the eyes, or other effects of the irritation of nerve centres by the poison.

Digestive failure, particularly nausea and vomiting, points towards the same danger. Visual defect or diminished secretion of urine should excite apprehension.

Any one of these signs continuing may be sufficient reason for inducing labor. If these signs are absent, we need not feel called upon in the large majority of cases to resort to this.

Yet there may be reasons for interfering besides the existence of some one or more of the conditions just mentioned, and these may lie outside of the renal disorder or of any of its effects.

A highly nervous temperament, an uneven circulation, a poor general condition of the patient, or surroundings which do not afford intelligent and faithful observance of the directions of the physician, may each be a sufficient reason for induction of labor.

I have seen albuminuria in the worst degree, which had continued for three weeks, give no suggestion of disturbance during spontaneous term labor in a woman whose pulse never got
above seventy during labor. A sound nervous organization, and the help of chloroform were enough to bring her safely along.

On the other hand, within the last two weeks I have induced labor where albumin had been present for a few days only and never more than twenty per cent by bulk. In this case, catarrhal jaundice was a concomitant and the pulse was ranging above a hundred, and the general condition was poor.

I think the surroundings of the patient must be carefully considered. She must be free from the dangers of exposure to cold, imprudent eating and drinking, excitement, and fatigue. Some people are naturally prudent. Where, however, we have to deal with a thoughtless or reckless person, or with a known lack of good judgment in the husband or friends nearest at hand, we may feel that the only really safe method of treatment will be by the induction of labor.

Acting upon the considerations just given, I have induced labor in about forty per cent of my cases of "Albuminuria of Pregnancy." Every case of this condition must receive, however, faithful study, and appropriate medical and dietary treatment.

I know, Mr. President, that my paper is very incomplete. I wish it to be looked upon as suggestive, and I know I shall gain by the discussion of it.

In opening the discussion, Dr. Wylie inquired of the author whether he had found dietary regulation, especially the use of milk diet, of benefit in these cases.

Dr. Partridge replied that his treatment included dietary management, but it was beyond the scope of his paper to discuss this subject.

Dr. Malcolm McLean.—There is one question in the discussion of this subject to which I may refer, viz., that of hereditary influence. I am a firm believer in its existence. The cases of patients whose families give a history of renal disease must be looked upon as more serious than where there is no such history. I have statistics enough to prove that the tendency to disease of the kidneys is handed down in families in which it has been prevalent, just as tendency to disease in other organs is sometimes inherited. When there is such a family history the albuminuria of pregnancy is much more formidable, and that fact weighs in the balance against leaving the case to nature.

If I understood the reader of the paper correctly, he does not credit those cases of eclampsia occurring during pregnancy which have no antecedent history of renal complication. He must, then, exclude cases of eclampsia which occur for the first time in pregnancy, and which afterward develop the characteristics of true epilepsy.

A great many years ago, Dr. Thomas called attention to the fact that there is a form of epilepsy which seems to have its origin in pregnancy, and I believe he related a case to the Society. He certainly called attention to eclampsia occurring in pregnancy entirely apart from any renal complication, and called it the epilepsy of pregnancy as distinguishing it from ordinary epilepsy with attacks during the pregnant state. A few years ago I saw
such a case, and Dr. Thomas and other eminent physicians of the
city were called in consultation. There had never been any com-
plification of the kidneys in that patient. Convulsions had come
on suddenly at the seventh month of utero-gestation which had
all the appearances of uremic convulsions. They were repeated
at least five or six times during the twenty-four hours. The urine
had been thoroughly examined, and no indication of difficulty
was present until the convulsions suddenly set in. Consultation
was called to settle the question whether the uterus should be im-
mediately emptied. The urine was drawn and another careful
analysis made with negative results. In view of this fact, and
also that the patient was resting quietly under the influence of
chloroform, it was decided to await developments. The patient
went on to very nearly full term, when convulsions set in again
and I induced labor. She recovered without difficulty, but a
month afterwards an epileptic convulsion occurred, showing that
epilepsy had become implanted in the constitution. There had
been no signs of epilepsy before pregnancy. Dr. Thomas remarked
at the time that the case was just such a one as he had called at-
tention to some twenty years before.

Dr. Morrill.—Was the child living?

Dr. McLean.—It was. Replying to a question by Dr. Grandin,
he said the convulsions could not have been due to hysteria. He
should have stated that the urine has never contained albumin.
The teeth were broken and the tongue lacerated in the seizures.

Dr. J. L. Morrill.—I have seen a few cases of renal complica-
tion in pregnancy, and it has always seemed to me that before re-
sorting to emptying the uterus, it is a good plan to do as Dr.
Wylie has suggested—endeavor to bring about a better condition
of the kidneys. If I remember correctly, I have in every instance
been successful in such attempts. In one instance I saw the
woman for the first time just as labor had set in. Convulsions
developed just before the birth of the child. There was extensive
anasarca, and the labia were so edematous that it was necessary
to puncture them before the child’s head could pass. The convul-
sions were extreme, yet the woman survived and recovered. The
child was dead, as might be expected. This patient was confined
three times subsequently, and showed no evidence of renal
trouble. By judicious management the albumin can be made to
disappear from the urine in many cases, and the patient carried
to term and be confined without trouble.

Dr. J. H. Fruitnight.—It is my belief that very often when
uremia appears at delivery, or late in pregnancy, renal disease has
existed, but owing to imperfect observation it has not been dis-
covered. A few months ago I was called to a patient in convul-
sions, and was informed by those in attendance on her that the
physician had examined the urine only once, yet had declared it
normal. There had been no symptoms of uremia. Under the cir-
cumstances, I delivered her as speedily as possible, and then on
examining the urine found it to be half albumin. Had the urine
been examined carefully and frequently before delivery, it is
probable that evidence of kidney disease would have been found.

When we are confident that a patient has renal disease, and has
passed through severe symptoms at prior pregnancies, I think we
are justified in inducing labor. If albuminuria alone existed, and
without severe symptoms, I should not interfere.

Dr. Charles Jewett.—With regard to the indications for inter-
ference with pregnancy. Mr. President, the writer of the paper has made a distinction which is sometimes overlooked, viz., the distinction between mere albuminuria and uremia. It is, of course, the failure of function of the kidneys which constitutes the indication for interference in the cases he refers to. As to the occurrence of convulsions in cases which have presented no premonitory uremic symptoms, my experience has been in accord with that of Dr. Partridge. I have met with cases in which the attendant claimed there had been no premonitory signs, yet the evidence was not satisfactory to me. If the uremic symptoms go on notwithstanding milk diet and the usual therapeutic measures, it has been my practice to induce labor. Formerly my results from this course were not very encouraging, but of late I have come to think it quite possible, by observing strictly aseptic methods, to make induced labor as safe as a spontaneous one. My results the last few years have certainly been as good. My method of inducing labor is about as follows: I first douche the vagina and canal of the cervix about twenty minutes with an antiseptic solution; then introduce the Simpson sound with the tip hugging the uterine wall, a distance of perhaps half an inch between the membranes and the uterine wall. Rotate the sound on its axis so that the tip will dissecr up the membranes. Continue this till a space of four and a half inches in diameter is uncovered. The effect of this procedure is to make the ovum in part a foreign body and lead to its expulsion. I then pass the aseptic bougie along the anterior wall of the uterus with the aid of a Sims speculum. In this way labor is provoked more promptly than by the use of the bougie alone.

I have employed another measure in the way of prophylaxis which has enabled the patient to go on without the induction of labor. It consists in the use of veratrum viride in sufficient doses to keep the pulse down to sixty or seventy. It may be continued for weeks without harm. This prophylactic use of veratrum is even more satisfactory than its use as a remedial measure.

DR. ROBERT A. MURRAY.—I have been very much pleased with the paper. The distinctions which the author has made I think are well taken, but there is one fact which should be noted, namely, that in cases in which there is really hyperemia of the kidney the patients are usually primipara, and the cases described first, in which there is chronic diffuse nephritis, have been in those who have had a number of labors. In the cases with diffuse nephritis, I think that frequently labor should be brought on, while in the other cases it is seldom called for.

There will be eclampsia in the primipara much more frequently than in the multipara. The latter is likely to abort before uremic trouble makes its appearance. There is a class of cases which has interested me much, and I have been unable to find a reason for their existence. During the last five years, four cases have come under my observation in which during pregnancy the urine had been most carefully examined microscopically and chemically by able men, and was found to possess no signs of kidney disease, yet there were constantly present symptoms of uremia. A comatose state would come on with profuse perspiration, the system becoming constantly weaker. Three out of the four cases have proved fatal, but in all the cases except the one in which there was recovery I was refused permission to bring on labor. The three aborted two or three days before they died. The abortion seemed
Obstetrical Society of New York.

419
to give them no relief, and they died uremic, with perspiring skin and fever, but no convulsions. One of the cases occurred in a primipara, and as she was a personal friend, I felt unusual interest in the case and demanded permission to bring on premature labor, but her husband stoutly resisted, and she went on under the care of the physician who attended me during my sickness until abortion came on, and she died three or four days later.

Dr. Buckmaster.—I would indorse from a limited experience what Dr. Jewett has said with regard to veratrum viride. There does not always exist the high arterial tension which is common in uremia, and when the pulse is rapid and weak, some might be afraid to use the drug because of its depressant effects. There were such marked favorable results from its use in one case under my care that I should be disposed to test it in these cases. In using it the aim has been to diminish the pulse rate to 65.

Dr. E. H. Grandin.—I not only indorse what Dr. Partridge has said, but I would be inclined to go a little farther than he does. I agree with him fully in the statement that it is essential to induce labor in all cases of organic disease of the kidney complicated by pregnancy, for the reason that, if labor is not induced, the chances are that the woman's health will deteriorate, and death will the sooner ensue from nephritis. I would go farther, and apply these remarks to cases of what I may term functional disease of the kidneys, in contradistinction to organic disease, provided under dietetic and medicinal treatment the albumin in the urine did not diminish, for I should feel that, although my patient might go safely to term, it would be with impaired kidneys. In other words, functional albuminuria appearing during the early months of pregnancy is likely to eventuate in organic disease of the kidneys.

Although the author has not discussed the dietetic treatment of albuminuria, it is a subject which has interested me very much. During the past summer I have been fortunate enough to see twenty-seven cases of albuminuria occurring late in pregnancy terminate favorably. All the women were delivered within a period of six weeks in my service at the Maternity Hospital. In some of them other symptoms accompanied the albuminuria, as edema, headache, and visual disturbance, but I was able to carry all the patients to term and have them delivered with safety. The treatment consisted in absolute milk diet associated with digitalis, iron, and occasional hot baths. In none did I give veratrum viride, because there was no special indication for it. Only one of the women had an eclamptic seizure, and this seizure occurred four or five days after delivery. The amount of albumin varied in the different cases from 1 to 91 per cent. If I remember the statement of my house surgeon correctly, all the women were discharged from the hospital without a trace of albumin in the urine. It is a somewhat singular coincidence that twenty-seven consecutive cases of albuminuria complicated by pregnancy should go through delivery without an eclamptic seizure in any one, and that the albumin should have so markedly diminished in all under an absolute milk diet.

Dr. J. E. Janvrin.—With regard to functional disturbance of the kidney in pregnancy, it was my custom five or six years ago, and previously when my practice was more in the line of obstetrics than at present, to carry the patient along if possible without the induction of premature labor unless some urgent symptom demanded it.
With milk diet and general tonics such patients can usually be carried safely through normal delivery. Dr. Grandin's twenty-seven cases afford strong corroborative proof of the correctness of this view, but where there is any organic lesion of the kidneys, the urine contains casts and albumin, and the case is not going on satisfactorily, I bring on labor, and do not remember ever having regretted it.

Dr. Grandin.—I think Dr. Janvin may have misunderstood me. In the twenty-seven cases to which I referred, all the women were near term, and I had a reasonable hope of carrying them through without the necessity for inducing labor, particularly since every one of them improved under milk diet.

The leading point which I wished to impress was, that in a case of functional albuminuria in the early months of pregnancy, with increasing amount of albumin in spite of milk diet and other remedies, I should be inclined, from personal experience, to induce labor. In support of this view, I may refer to the case of a young woman who had absolutely no indication of organic trouble of the kidneys before pregnancy; yet at the third month of utero-gestation the urine was found to contain about ten per cent of albumin. At the fourth month it contained fifteen to twenty per cent. Two specialists in urinary examination in this city examined the urine; it contained no evidence of organic lesion of the kidneys, and abortion was pronounced against. I acted on their advice, carried the woman through to term, delivered her of a living child, but within six months she died of nephritis. Had abortion been brought on during the early months, I think the woman might be living to-day. I do not wish to be understood as claiming that every pregnant woman with albumin in the urine should be made to abort; I only desire to emphasize the point that in instances where, notwithstanding dietetic and medicinal measures, the albumin increases, there is risk of the kidneys becoming radically diseased, and therefore my belief that speedy emptying of the uterus is justifiable in order to forestall such an occurrence.

Dr. Janvin.—I had misunderstood Dr. Grandin's remarks. Yet if in these cases the albumin were not increasing in amount after reaching ten per cent, I should hesitate about bringing on miscarriage. For instance, in May last a primipara in my near neighborhood came under my observation, and it was found at about the twenty-fourth week that the urine contained ten per cent albumin, and there was some evidence of inflammatory trouble in one or both kidneys. I saw her just before I went away for the summer, and advised the physician in attendance to put her on milk diet and keep careful watch of her. I heard nothing more of the case until my return in the fall, when I was informed that she had been confined the latter part of August. There had been a moderate amount of albumin in the urine until term. She got up from her confinement all right, and is perfectly well now, and I believe all evidence of albumin has disappeared.

In reply to Dr. Murray, Dr. Grandin said but a very small proportion of the twenty-seven cases were primiparous.

The President.—There is one practical point brought out in the discussion worthy the consideration of us all. Some of us working in the department of gynecology may sometimes forget the fact that quite as many lives can be saved by correct obstetrics as by the correct disposal of the pedicle of an ovarian tumor, etc. We have all been, and many of us still are obstetricians, and if we
have learned some facts which may enable us to save even one or two lives in the management of pregnant women, the discussion will have proven of the greatest practical importance. We ought to teach our patients some of the subjective symptoms of albuminuria or uremia, so that as soon as they make their appearance they will immediately report to us, and bring a specimen of urine. If they become excessively sensitive to noise, if the vision is disturbed, the feet edematous, if they are stupid and heavy, have headache, etc., they should be taught that, these being abnormal conditions, it is for their welfare to report to the family doctor at once, and send a specimen of urine every day. If this were done, albumin would probably often be found in cases in which during convulsions it seems to be absent.

DR. E. L. PARTRIDGE.—The discussion has certainly been a kind one to me. With regard to Dr. McLean's interesting case, I should feel that it was, after all, simply one of epilepsy which had its beginning during pregnancy, and that it does not fall within the class of cases I spoke of as true puerperal convulsion. The fact that his case was a rare one, and was probably due to epilepsy, is attested by the further fact that Dr. Thomas remarked that he had seen only one such case in twenty years.

The remarks of Dr. Wylie and Dr. Morrill on treatment were interesting, but they had no direct bearing on the paper, for it was not my intention to dwell on the medicinal or dietetic treatment of albuminuria. It is because such measures are resorted to that we do not have to bring on premature labor in albuminuria in more than about thirty per cent of the cases.

I do not understand just what Dr. Grandin means by functional albuminuria.

DR. GRANDIN.—I used the word functional as indicating hyperemia of the kidney in contradistinction to organic disease, just as we speak of functional heart disease as opposed to organic heart disease.

DR. PARTRIDGE.—I should regard such a condition, giving the clinical history of the case he reports, in early pregnancy as belonging rather to a nephritis, while if it occurred in the later months it might be spoken of as functional. I am glad Dr. Janvin's patient recovered, but I fear that if she becomes pregnant once or twice more she will have a fatal nephritis.

It must be remembered that the twenty-seven cases of Dr. Grandin's were in hospital practice, where one could more safely keep them under observation than if they occurred in private practice.

Veratrum viride, I think, is a good remedy, but it is not better than venescence, which is rather a neglected plan of treatment. The latter seems to me to be the safer. It would seem more rational to relieve the patient by letting out some of the poisonous blood than by introducing another poison into it.

Regarding hereditary influence, in the case of the first patient whose history I related, both her father and mother showed signs of renal trouble, but I cannot say that my observations in this direction have been sufficient to justify an opinion.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

_Thursday, December 6th, 1888._

DR. T. M. DRYSDALE in the Chair.

Dr. Wm. Goodell showed a

RECURRENT INTRALIGAMENTARY CYST

removed without entrance into the peritoneal cavity.

This patient, a lady of 31, at the age of 18 had an ovarian cyst removed by Dr. Joseph Schnetter, of New York, who, in answer to a letter of inquiry, was kind enough to write the following: "The cyst had no pedicle, and was attached with a very thick mass of fibrous tissue to the right side of the uterus. . . . Mrs. X, after recovery, menstruated regularly through the cicatrix, and had an attack in New York similar to the one for which you are attending her at present. My opinion is that a piece of the lining membrane of the cyst may still be left in the cicatrix, causing an accumulation from time to time, and opening the cicatrix.

On the 25th of last November, Dr. G. was called to see her by Dr. Thomas C. Potter, of Germantown. She was hectic, much emaciated and bed-ridden, and was daily losing strength from a free discharge of pus, which escaped through a fistulous opening in the abdominal cicatrix. This he probed, but the instrument ran upwards and inwards, more in the direction of the kidney than in that of the pelvis. So much blood followed the use of the probe that it was not pushed very far. Under the cicatrix lay a tumor of some kind, which in front was hard and unyielding, but by bimanual palpation it gave the sense of a very large pelvic abscess.

Into this tumor the probe did not enter. The womb was fixed, the fundus being pushed over to the right. The fistula had opened early in 1885, and has lasted ever since. In December, 1886, she had a very severe attack of peritonitis, which kept her two months in bed, and it was after this attack that the tumor first appeared. The hardness of that part of the tumor which lay under the cicatrix, and the sense of fluctuation by vaginal palpation, so perplexed me that I wrote to Dr. Schnetter for further particulars, and his reply, which he courteously placed at my disposal, I just read to you. On December 1st I operated on her, at my private hospital, and I must confess that no case ever puzzled me so much. The fistula was first enlarged so as to admit the finger. As this gave no satisfactory information, the incision was lengthened in the old cicatrix to about four inches. This revealed a solid colloid
tumor about as large as a cocoanut. It was firmly adherent to the cicatrix and to the abdominal wall in front, and to the left side. When the lateral adhesions were severed a very large amount of pus escaped from the wound, and the hand now entered into a capacious cavity, wholly shut off from the peritoneal cavity by walls of thick pyogenic membrane, which at the navel looked like a false diaphragm. Into this cavity the colloid tumor hung, as if it were suspended; that is to say, while its upper and right lateral surfaces were firmly and closely adherent to the abdominal wall, its under or lower surface, free from adhesions, projected into the fluid of the abscess cavity. A short and slender pedicle, running from the lower end of the tumor, was lost in the pelvic floor of the pyogenic membrane. Where this pedicle ended it was impossible to discover, as not a pelvic organ could be felt through this thick membrane, but it was closely adherent to the lower abdominal wall, from which it was detached before being tied and cut. The tumor was now cut open and its size lessened by digging out its contents with the finger nail. When it was removed, free hemorrhage occurred from the broken adhesions. This was checked by Monsel's solution, and by the free application of vinegar, a pint of the latter being poured into the cavity, and splashed about the bleeding surfaces. This large cavity was then treated by the capillary drainage of Mikulicz, viz., by packing it with iodoform gauze. Since the operation the patient has done exceptionally well, the temperature being always natural, and the pulse not more frequent than it would be in a person so reduced as she is.

In reviewing this curious case, it seems to me that the original tumor removed by Dr. S. was an intraligamentary cyst of the right ovary: that, as he suspected, a small piece of the cyst-wall was left in that portion of the broad ligament which was made the pedicle and sewed into the abdominal incision; and that pari passu with the growth of this fragment of the cyst, an abscess had formed between it and its capsule of broad ligament which formed the walls of the abscess. The four-inch incision into the abdominal wall did not open into the peritoneal cavity, but merely into a vast pus sac. The tumor was therefore a recurrent intraligamentary cyst, and wholly extra-peritoneal. The wonder to me is that this lady bore for so long a time so large an abscess without losing her life.

Dr. Goodell also showed an

**Ovarian Cyst**

which he had removed a few hours before, and in which the characteristic green hue of necrosis was marked. Torsion of the pedicle occurred one month ago, characterized by severe abdominal pains and excessive vomiting. After this the woman gradually failed in health and lost flesh, from chronic blood-poisoning. A few hours before the operation another attack of pain and vomiting
took place. The cyst was universally adherent to the abdominal wall, intestines, and omentum. The pedicle, a very slender and short one, was so twisted as to stop all circulation, the cyst being nourished merely by its adhesions.

Dr. Wm. Goodell showed a specimen of what he deemed to be an

EXTRA-UTERINE FETATION.

A healthy lady, aged 33, had been married thirteen years without conceiving. Her catamenia had always been regular up to two months before he saw her, when they were delayed for over two weeks. A few days before they reappeared, she was seized with a violent pain, like cramps" in the pelvis "shooting upwards like knives." This was followed by syncope. Hypodermics of morphia were resorted to, and she was left with a pelvic soreness that kept her in bed for several days. During the flow of this delayed period a second attack of pain occurred, analogous to the first, but not quite so severe. In about a week another hemorrhage came on. A few days later she had a third attack of pain and of syncope, which took place at night. A third hemorrhage now occurred, which was also followed three days later by a severe pelvic colic. This seized her as she was in the act of getting out of bed. The last attack took place on November 18th, and she was left for several days very weak and nervous. On the 25th, she consulted Dr. G. about the pelvic colics, irregular hemorrhages, painful defecation, and occasional pains running down the left leg. He found a small womb pushed forward and to the right by a boggy tumor lying to the left in Douglas' pouch. The diagnosis of extra-uterine fetation was made, its dangers explained, and an early operation insisted upon. Both the lady and her husband were so shocked by this discovery, and seemed to be so incredulous, that he (Dr. G.) deemed it best for them to get the opinion of another physician. He sent them to Dr. Joseph Price, who confirmed the diagnosis. Very early in the morning of November 29th, while she was in his private hospital, a fifth attack of pain, of a "bursting feeling," aroused her out of a sleep. This was followed by faintness. At nine o'clock, about six hours after this attack, laparotomy was performed. As soon as the cavity of the abdomen was opened, a large amount of black blood of the consistency of thin molasses welled out of the incision. Several knuckles of intestine were also forced out, which could not be wholly kept back during the operation. The right ovary was sound, but the left could not be discovered. In its place was found an irregular cavity, within which was found a tumor about the size of an egg, containing within its sac layers of coagulated blood. It was attached to the broad ligament, which was tied and cut off. A very large number of old clots and shreds of fibrin were flushed out of the abdominal cavity by means of a syringe, six quarts of water being used for this purpose. A drainage tube was put in
and the wound dressed with iodoform gauze. So much hemorrhage occurred later through the tube that he spent several hours by the side of his patient, fearing it would be needful to reopen the wound. But, by dint of keeping the blood from collecting in the tube, the bleeding points were kept dry and the hemorrhage ceased spontaneously. The tube was removed on December 3d, and the patient has thus far had an uninterrupted convalescence. Dr. G. had not been able to examine the specimens carefully, but Dr. Baldy, who was present at the operation, had cut it open and he would like him to describe it.

Dr. Baldy said that the history of the case had been rather typical of extra-uterine pregnancy, and the escape of dark-colored blood from the abdominal incision at the operation seemed to confirm this opinion. The mass, which had been shown, was brought to the surface and cut away, after being tied. This was apparently all there was to come away, there being nothing left but a sac filled with old blood clots, which sac was formed by adherent intestines and uterus and pelvic walls. The mass itself contained a semi-fluctuant tumor, the size of a small egg, and which he felt confident contained the fetus, before it was opened. On being laid open, it appeared like a large blood clot, parts of which had undergone degeneration, presenting a mottled appearance. A small portion of normal tube seemed to run directly into this mass and as it reached it spread its coats out over the mass. The ovary was nowhere to be found. He believed that the mass was blood clot, but could not explain its occurrence. The fetus was not found.

On motion of Dr. Baer, the specimen was referred to the committee on morbid growths.

Dr. Joseph Price read a paper on

TUBAL DISEASE A PRIMARY CAUSE OF INTESTINAL OBSTRUCTION.

In reporting cases I have repeatedly called attention to the frequency of adhesions occurring between the uterine appendages and some part of the intestines, and my purpose in this brief note is to emphasize the importance of recognizing the danger of obstruction of the intestine arising from inflammatory conditions of the pelvic viscera. In glancing over the cases I have operated on during the past year, I find that in more than fifteen per cent there were noted "dense, firm adhesions" between the intestines and uterus and appendages, malignant cases not included. In every case, with one single exception, as far as I could determine from the history, symptoms, and operative developments, the inflammatory conditions causing the adhesions originated in the uterine appendages. I do not intend to discuss the pathology of inflammations in the pelvis, nor to present statistical evidence, nor to cite numerous authors who have recognized these lesions, as Greig Smith and others, for the few general observations I desire to make. First, as to the form or kind of obstruction likely to occur. The inflamed serous surface of the diseased tube or ovary coming in contact with a loop of intestine or an edge of omen-
tum provokes inflammation there, and with characteristic promptitude these surfaces cohere. If the process is not severe and of slight duration, these adhesions may disappear as promptly as they occurred, by the enormous absorptive power of the peritoneum, and hastened by the mild influence of the peristalsis of the bowel. If, however, the inflammation is severe or assumes a chronic condition, these adhesions gain in extent and strength, and give rise to all the variety of conditions classified by Treves as "strangulation by bands." In most cases where these adhesions occur, there is a history of constipation. It is probably due as much to the pain caused by defecation as to interference by the condition. Again the pain is often so great as to mislead the physician into thinking that a more virulent inflammation exists than really does. But the pain is not always proportionate to the amount of mischief. I have seen cases in which a mere omental adhesion has caused most agonizing pain. For instance, I recently saw a case in consultation, a woman who had had the appendages removed for backache some time before, and who suffered excruciating pain, especially on defecation. In this case the only lesion found was the omentum firmly adherent to the original incision. The omentum here was much elongated, and the transverse colon was dragged below the level of the umbilicus. In like manner, I have seen the omentum adherent over the entire pelvis, dragging the transverse colon so out of place that a twist or kink of the bowel could be very easily found. It is not at all rare to find the vermiform appendix glued fast to the uterine appendages, while almost any loop on the small intestine may become adherent to the inflamed pelvic viscera. As I have said, these adhesions vary in extent and density from those that will tear like wet tissue paper to those so well organized that it requires the scissors to release them, and it is not rare in pus cases for the bowel to be almost gangrenous about these points of adhesion, and in fact to tear through. That adhesions do not cause complete occlusion at the time of their formation oftener than they appear to, is no reason for regarding them lightly, for Mr. Treves tells us, in the series of cases he studied, that the average duration of the interval between the causation and the obstruction was three years; the shortest period being five weeks, and the longest twenty-one years. In view of these general considerations, it is hardly necessary to insist upon the release of the intestine wherever and to whatsoever extent adhesions exist. For if the surgeon leaves adhesions when he closes the abdomen, he leaves a probable cause of future serious trouble. Louis reports a case in which an ovarian cyst, when emptied by the trocar, so dragged upon an adherent bowel that intestinal obstruction developed. I am prone to believe some of the deaths from intestinal obstruction after operation are due to leaving old bowel adhesions undisturbed.
Dr. W. M. Goodell said that his experience in ovariotomy led him to say that it is a mistake to postpone the opening of the bowels to a late period. He used to follow the old plan of not giving a cathartic until the eighth day, but he was confident that he had had death result from this practice in consequence of the formation of intestinal kinks from adhesions, making it impossible for the bowels to be moved. He now almost always gave an aperient or an enema on the fourth day, and earlier if any symptoms, such as vomiting and tympanites, present themselves.

Dr. B. F. Bär said that up to a few years ago he had also followed the plan of keeping the bowels confined after laparotomy, but now he had them moved on the second or third day—rarely as late as the fourth day. That good plan of quenching the thirst by allowing a pint of warm water to flow into the rectum facilitates the passage of flatus and feces. He thinks it a mistake to give opium, as was formerly done. Intestinal obstruction was likely to result, as well as adhesions. But this question must be settled by the requirements of each case. He had a case four years ago in which very serious collapse occurred at the end of the second day. Stercoraceous vomiting occurred and large quantities of flatus were passed by the mouth, but none by the anus. These symptoms were thought to be due to obstruction, and reopening was considered but not done. The patient recovered, although she did not pass flatus for five days. Should such a case occur again, he would open the wound, and would have the indorsement of most operators for so doing. Large doses of salines are advised in such cases, but he wondered if there was not some danger of rupture of the bowels in these cases of adhesion after serious operations, and he related the following case: An ovarian cyst was closely adherent to the large intestine for a considerable distance. On the evening of the third day symptoms of a septic peritonitis developed. A large dose of Epsom salts was given. The next morning the general condition was better, but he found that liquid feces were flowing from the wound. He reopened the wound, and tried to find the point of rupture and close it with sutures. Even after having enlarged the original opening, the ruptured point could not be found on account of its depth in the pelvis and the amount of lymph thrown out. He then closed the wound, without drainage, but freshened the surface of the drainage tube tract and closed it, hoping that the freshened edges would unite. In two days fecal matter again appeared, symptoms of collapse developed, and she was expected to die. She, however, finally recovered. The fistula has entirely closed. The lesson he learned from the case was, that when rupture of the bowel occurs under similar circumstances, the best plan is to let it alone. Dr. Price had referred to two cases where he reopened the abdomen for pain and found the omentum adherent to the line of incision. It is unfortunate that we do not know of some means to prevent these adhesions, but it is a wonder that they do not more frequently occur in the line of the incision and to the raw surfaces left after separating adhesions. He knew of no better way to prevent this accident than by the early use of laxatives. Probably much of the pain complained of after operation is due to adhesions, and it is unfortunate that he should be called upon to reopen the abdomen in order to release them. Would it not be wise to give nature time to adjust matters, since
there is danger of the formation of other adhesions from the second operation?

DR. WM. L. TAYLOR read a paper on

"FIXED UTERI."

In looking over my case book I find the remark "uterus fixed," so often noted, so often helplessly, but I trust not hopelessly, underscored as much as to say "Here again," that I fain would ask, how many of these cases were in their inception recognized as cases of peritoneal inflammation? In a number the note is made, "Patient had attack of inflammation of bladder." "Inflammations of the bowels" has been of alarming frequency, whilst "congestion of the liver" makes me wonder at the special degree of sensibility of that organ in women. In one case in which there was eventually a fatal relighting of a former peritonitis, the original trouble was noted as an attack of "wind colic of the bladder." If these attacks of peritonitis with their resultant lymph deposits are so grossly misnamed, is it not more than likely that the abortion, or at least the curative treatment, is as far afield? In a series of cases where the lymph deposit seemed to be the most diffused, a positive history of an active and acute inflammatory trouble could not be obtained. There was only the history of a continued abdominal pain and tenderness, dating from an abortion, from heavy lifting, seldom from normal labors, and presumably never from gonorrhoeal infection. Seldom—I might say never—have I had perfect success in my efforts to trace the cause to this infection. The history of the husbands as to the existence of a gonorrhoea or gleet at the time of commencement of pelvic trouble is, in the vast majority of cases, worse than uncertain. In several of the subacute cases the only ascribable cause appeared to be indirectly, if not directly, the effort to prevent conception. Freedom from the possibility of at least maternal cares leads to an amiable weakness, and coition follows coition in quicker succession than the law of conservatism would recognize, and, plus the menstrual congestions, which now even anticipate, without the restful feelings of pregnancy and lactation, congestion and inflammation of the peri-uterine tissues follow. That this is as immediately the cause of the fixed uteri, the thickened and enlarged ligaments and tubes and tender ovaries as in gonorrhoeal infection, even in prostitutes, I am inclined to believe. Where the deposits of lymph were more localized or larger in quantity, seeming as if it had been poured out quickly, and had by gravity centred itself around the uterus, there were the histories of acute, well-marked attacks of cellulitis or peritonitis. The causes were difficult labors, with badly lacerated services, these lacerations extending through into the cellular tissue, and also criminal abortions. In these cases, how often traumatism and how often septic poisoning was the exciting cause it is impos-
sible to say. Catching cold while menstruating, falls, and various other accidental causes were among the number.

The average physician, as soon as the patient is up out of bed, shakes himself by the hand, and says: "I have cured my patient." But he hasn't! There is still the important sequel to deal with—the lymph deposit. In fully three-fourths of all the cases, the body of the uterus has become fixed in retroflexion, even in multipare. Just as soon as the uterus feels the stimulus of congestion or inflammation of the surrounding tissue, it becomes turgid and heavy, and sinks decidedly lower in the pelvis, until the cervix is near the vulvar orifice, and, following the curve of Carus, the fundus is retro-displaced. Here it is as if it were frozen in—fixed immovably. All around it is a mass of inflammatory lymph becoming more dense and resisting as organization advances. In the centre of this, the sound probably indicates the uterine body with a measurement of three and one-half inches. The cavity is tender and the cervix softened, congested with venous blood. Now this deposit varies greatly in quantity, as the inflammation has been by judicious treatment, or by nature alone, limited or been allowed to involve a great extent of peritoneal surface. The possibility of determining the amount of lymph deposit and the degree of fixation by bimanual examination seems to me to be one of the few certainties in gynecological practice. A uterus which is low in the pelvis, and which cannot be raised to the normal line, and a fundus which is retroflexed and cannot be repositioned, with the other evidences bimanually of thickening and deposit, cannot but point to the certainty of previous inflammation. A sterile uterus and a fixed uterus seem to be almost synonymous. The ovaries and Fallopian tubes have become merely painful spots and useless for the purpose of conception, and should the patient conceive, the uterus seems unable to enlarge, and expels the fetus for want of growing room. When I find a young married woman with evidences of a former peritoneal inflammation, I am very guarded in my promises for her future fertility. Backache, ovarian pains, and headache, metrorrhagia or menorrhagia, profuse leucorrhea, bladder and bowel irritation, and a thousand and one nervous phenomena mark a very unenviable period in the patient's life. Hysterical, fretty, and worrisome, she is a burden. The ovaries have prolapsed with the uterus, and are imbedded in and virtually strangulated by surrounding lymph. Menstruation, which before was painless, now gives place to severe dysmenorrhea. The pain is different and more wearing than that due to simple stenosis. It begins several days before the menstrual flow as a more or less steady, throbbing, sickening pelvic pain, extending down the inside of the thighs. As soon as the flow is established this pain gradually gives way to the never-ending backache and pelvic dragging. Sometimes there is premenstrual nausea and vomiting, due undoubtedly to ovarian pressure.
In nearly all the cases there is fungoid endometritis as a result of the continued uterine congestion. Hence the metrorrhagia or menorrhagia, notwithstanding which the uterus seems to become more congested and more tender.

The need of shortening these attacks of pelvic peritonitis, aborting them if possible, can only be appreciated by those called upon frequently to treat the sequelae. In traumatic cases where there is no reason to suspect septic influence, as soon as the usual symptoms of peritoneal trouble present themselves, the lower bowel is thoroughly moved by an enema of sweet-oil and turpentine; the patient's hips are then decidedly elevated by pillows or by elevating the foot of the bed so as to, as much as possible, drain off the pelvis, and also to keep the pelvic organs from prolapsing. From twenty to thirty grains of chloral by the bowel and from one-eighth to one-quarter grain of morphia hypodermically are given. A thin flannel binder is applied loosely, and on that over the abdomen an ice bag is placed and kept there, not one hour, but for hours. A febrifuge is given with the ice cap, and antifebrine if the temperature reaches 102°. Where there is evidence of septicemia with the clammy skin, the sunken eyes, the central heat, I have the bowels thoroughly evacuated by divided doses of calomel and soda, and administer quinia in ten-grain doses every four hours, until my patient complains of tinnitus. To the abdomen I apply a large turpentine stupe, followed by a light poultice. The hips are elevated, and if there is positive need for an opiate, a vaginal suppository of ext. opii. aq., grs. ill.; ext. belladon., grs. iss. is used. If these attacks are thoroughly treated, the amount of lymph thrown out is small, and probably will be absorbed almost as rapidly as it was thrown out. But we meet a case which was treated by "the other doctor around the corner," and the uterus and its appendages are, as before described, imbedded and immovable. Now what are we to do? The great object is to get rid of as much of this effused matter as we possibly can. The older and more thoroughly organized this becomes, the less chance there is of rapid and complete absorption. So the moral is, commence early! It is going to do one of three things: undergo absorption, break down and form pelvic abscess, or become organized, acquiring an adventitious circulation. When I meet a case of recent or comparatively recent deposit, where I can have my directions enforced I am confident of success. I commence treatment by correcting the digestive tract, getting the stomach, liver, and bowels in better condition, and surface circulation is stimulated by warm baths and frictions. I then give the corrosive chloride with the iodide, commencing with small doses frequently repeated, and gradually increasing the dose and lengthening the time. In the use of the bichloride and iodide I have had marked success, much greater than in those cases treated with iron and bitter tonics, the same local treatment being used in both. Locally
I rely upon the abdomino-vaginal galvanic current, and gentle or more decided uterine massage as there is great or little tenderness. This uterine massage I prefer in cases of long standing where the tenderness has disappeared, but still used carefully when there is tenderness, I find it beneficial. Every other day, or twice a week, I make steady pressure upon the fundus of the uterus with the index finger of my left hand in the rectum, and upon the cervix and body of the uterus with the right index finger in the vagina. This pressure I keep up for two or three minutes, gradually trying to force the body upwards and forwards. Then efforts at lateral movement for the same length of time. This massage I follow with the continued galvanic current, using the abdomino-vaginal method. For the breaking down of pelvic lymph, I have not used electro-puncture, preferring the slower and as certain absorption by the stimulation of pelvic circulation. Where there is tenderness I use the positive pole in the vagina, and the negative over the abdomen for the first three or four applications, and it is marvellous how speedily this tenderness disappears. I then reverse the poles, using the negative with a ball or small crescent-shaped electrode in the vagina. These séances, including the massage, last for about fifteen or twenty minutes. The strength of current averages about twenty-five to thirty milliampères. After this is over, I frequently pack the fornix with wool, introducing a small ring pessary to keep the wool as much as possible in position. After I gain a certain amount of mobility, I introduce a Smith-Hodge pessary, small at first, increasing to a more suitable size as the uterus rises to the normal line. Tincture of iodine to the fundus of the vagina, flying blisters, and the hot-water douche, I have tried faithfully with uncertain success, but not so often since I have found such positive relief from galvanism. In the cases of much longer standing, I acknowledge that all I can get from galvanism, sometimes, is the relief from pelvic pain. Can we get anything more from other treatment? Out of a series of twenty cases, in which galvanism and massage were employed for the purpose of relieving pelvic soreness and pain, and inducing mobility of the uterus, twelve cases were discharged after an average of twenty applications each, sufficiently improved to need no after-treatment. Four are improving under treatment, and four disappeared after one to five applications. In over one half of these prior cases, treatment had been faithfully tried before galvanism was resorted to.

(To be concluded.)
TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, January 4th, 1889.

Dr. J. Taber Johnson, President, in the Chair.

Dr. A. F. A. King read the paper of the evening, entitled:

WHAT IS THE NORMAL POSTURE FOR A PARTURIENT WOMAN?

Dr. Busey, in opening the discussion, said: I have, through the politeness of Dr. King, had the opportunity of reading the paper, and take pleasure in commending it to the favorable consideration of the members. In attempting to analyze it and to present the salient points of the argument, I will have occasion to approve and disapprove. Some of the statements are too dogmatic, too assertive, and some of the arguments are misleading and fallacious. Nevertheless, the underlying thought and dominant idea is in the right direction. The paper concludes with a summary set forth in five distinct and definite propositions which I will consider in the order in which they are stated.

If the first proposition set forth what is meant, it would be correct, but what is meant is not expressed. The word normal is incorrectly used as the synonym of natural. It is, however, true that there is no one posture, either normal or natural, to which all women in labor should be confined, either during the entire period, or during any of its stages. It is equally true that some one posture may be either or both normal and natural for some women. The proposition is, moreover, based upon the assumption that obstetricians generally confine women in labor to some one posture, whereas, in fact, the practice among skilled, intelligent, and experienced obstetricians is, perhaps, universal to permit the patient, during the first stage in natural labor to do as she pleases, and during the second stage, for the most part, to confine her to recumbency, but not to any continuous, fixed position, until the labor is about to terminate. It is undoubtedly true that posture and change of posture may, in some cases, be utilized to make labor easier, shorter, and less painful, without detriment to either mother or child; but to assert that constant changing posture during the second stage is conducive to such results in every case is as fallacious as the assertion that no one posture is natural to any parturient woman, or that the continued maintenance of one posture during the second stage of every natural labor is necessarily detrimental.

The second proposition is a combination of truth and fallacy. True, insomuch that the continued maintenance of one posture may, but not always, "interfere with normal mechanism," and, consequently, increase "the duration and intensity of the

1 See Original Articles in this number.
woman's suffering." Not true that recumbency "wastes and exhausts the forces of labor." The assertion that recumbency, either in the dorsal or lateral decubitus, must waste and exhaust physical force and power is contradicted by the life history of any human being, and by the posture of animals during sleep. Recumbency is prescribed and insisted upon, during cases of illness, to arrest waste and to economize strength. Would waste and exhaustion come sooner or faster during the few hours of a continuous posture during the second stage than if the same time was passed in continuous change and tossing from one to another posture? The muscular tire and soreness, which Dr. K. ascribes to the maintenance of one posture, are nor localized, nor limited to the muscles of one side when a lateral posture, nor to those of the back when the dorsal posture is maintained. They are general, affecting the entire muscular system, and are the result of the general muscular tonicity incident to the acme of the pains of labor.

The theory of "unexpressed instinct," in explanation of the refusal of the patient to change posture when requested, because the movement may hurt, is beyond my comprehension, and clothes instinct with an intellectual capacity which I cannot admit.

In support of the second proposition, Dr. K. asserts:

That it is "not physiological that continued succession of pain should occur without any perceptible progress," and that

"No single pain should occur, after labor is well advanced into the first stage, without the woman's instinct recognizing some appreciable progress."

Dr. King, interrupting, said: Dr. Busey should quote the whole sentence to get the sense of my remark: "It would be nearer the truth to say that no single pain should occur, after the labor is well advanced into the first stage, without the woman instinctively recognizing some appreciable progress."

Dr. Busey.—There is no method of measurement known to me by which any obstetrician can determine the effect of every pain; but as the sum total of a number of uterine contractions taking place in a given period of time may be measured, the physiological presumption is that every pain does promote progress. The progressive adaptation of the presenting part to the pelvic diameters is actual progress, and yet its various stages may not be appreciable by our methods of measurement. If the effect of each pain in promoting the adaptation of the fetal head to the pelvic diameters is inappreciable to the obstetrician, how is it possible that the instinct of the woman can measure its effect, and determine whether it is a moving or a "stand-still" labor; and if both assertions were true, how could an automatic change of posture make such fact appreciable either to her or to the obstetrician? The fact is that women know nothing, or but little, of the progress or arrest of labor, except through statements made to them, and the occurrences which appeal directly to their intelligence.

Again, he asserts that, "considered mechanically, we must appreciate that, so long as the woman remains in the same posture, the impulse of the expelling force will remain in the same direction."

There is much in this statement that is true, and being true is a positive and emphatic contradiction of the theory and assumption of the paper. It has not been and cannot be shown that every or any change of posture will change the direction of the impulse
of the expelling force, and, if it could be so shown, it would not be advisable to permit successive changing of posture, for if the posture and the impulse are correlative, progress would be frequently arrested in natural labors, and waste and exhaustion of force would necessarily follow.

It is probably true, as stated in the same connection that, "There is no surer or quicker way of exhausting the power of a muscle than by making it repeat, over and over again, exactly the same contraction."

Nevertheless, that is what does and must take place in every labor. The object and purpose of posture and change of posture is not to arrest, lessen or delay, but to promote the effect and safety of the contraction of the uterus; to economize force and make labor easier and shorter. The impulse of the uterine contraction is first impressed upon the liquid medium and through the long axis of the fetal ovoid is finally expended upon the presenting part in natural labors. Surely, then, a change of posture would be unadvisable in such cases if it changed the direction of the impulse.

I cannot see the logic and force of the analogies, cited in this connection, between a woman and a sow and a hen, or between the female genital tract and the key and lock or screw and nut. I might, however, utilize, in refutation of the theory of the paper, the fact that the hen maintains one posture during laying, until rising during the final agony of expulsion of the egg, to immediately resume the sitting posture for a shorter or longer period.

If the second proposition is correct, the third could not be either its converse or corollary. For if the continued maintenance of one posture should be productive of the disastrous results so graphically set forth, the mere automatic change could not so effectively obviate them. The contractions of the uterus, with the pain and suffering, and the muscular tire and soreness, with consequent waste and exhaustion, must go on until the labor is complete. It may be that in some cases of labor a change of posture might lessen and modify the obstacles.

The fourth proposition is correct in so far as it sets forth that when arrest of the mechanism of labor is due to posture, the indication for a change of posture is established. In support of this proposition Dr. K. quotes with approbation the dogma of Engelmann: "That a woman in ordinary labor should be permitted to follow the dictates of her instinct in regard to her movements more freely than is customary."

I admit that "emotional discontent and peevishness"are quite common influences provoking change of posture, but despair would more likely induce quiet, silence, and solitude. I have not, however, much regard for instinctive obstetrics, intuitive medicine, or traditional science. I prefer to study obstetrics from the standpoint of intelligent and scientific observation rather than accept and follow the customs and habits of primitive peoples. But the proposition, as well as the dogma of Engelmann, is based upon an assumption which is contradicted by the practice of the majority of obstetricians of the present time, nor do I believe that any large class of obstetricians at any previous time confined all women to one posture or any case to one posture from the beginning to the end of her labor.

The fifth proposition needs no comment.

In the argument sundry statements are made which demand
consideration. Dr. K.'s objections to the dorsal decubitus are well taken. I have no one posture for any case or stage of labor, but prefer for many reasons the left lateral during the concluding period of the second stage. It affords greater facilities for neatness and cleanliness, for inspection and protection of the perineum, for examinations, and, I think, expedites expulsion.

Dr. K. asserts with marked emphasis that "Labor is colic—uterine colic—this and nothing else. Anatomically, physiologically, etiologically, and in every essential particular, a labor pain is as truly a colic as is the pain of renal, hepatic, or intestinal colic."

This cannot be accepted or be permitted to pass without comment. It is based upon the presence of intermittence—an ordinary characteristic of pain—and claim of uterine peristalsis, which is now denied by many obstetricians. Labor pain is physiological, uterine colic is pathological—a distinction which destroys their identity. There may be two pictures hanging against the wall, from the same rods, by like cords and hooks, with like frames, of equal size, with canvas and oils and paints of like quality and by the same artist, but they are portraits of two different persons. They are identical in every detail, but widely separated by the final and crucial test of distinction. If Dr. K. had seen uterine colic, as I have seen it, with its intense agony, pallid, cold and clammy surface, feeble pulse, and collapse, he would not attempt to identify it with the physiological pain of labor. Again, labor is markedly distinguished from colics by conditions of exhaustion and slow recuperation which usually characterize convalescence from colics.

Dr. K.'s picture of the orthodox and heterodox propositions are overdrawn, the comparison being made between the former in extreme and the latter in its milder conception, and in all of the comparisons discrimination between unlike cases of natural labor is omitted from consideration.

The general statement that the women of the present time are degenerating, and that child-bearing is embarrassed with more frequent complications and obstacles than during any previous time, cannot be admitted. More children are born alive, there are fewer immature and premature children, fewer complications of labor, and less mortality among the lying-in and their infants to-day than during any period of the past three hundred and fifty years of scientific obstetrics. In many properly conducted maternity institutions the mortality is less than one per cent, and in some it does not exceed one-fourth of one per cent. When Dr. K. shall have succeeded by any system of posture or change of posture in reducing this fraction of mortality, he will have accomplished a most desirable but unexpected result.

I must with equal emphasis deny that modern practice in delivery is dominated by "custom, apparent convenience, prudery, false modesty, obstetric law or obstetric fashion, but not reason or obstetric science." All this is a slur upon the profession, which is not justified either by facts or history. Reason and science more completely dominate the practice of obstetrics than any other department of medicine.

Dr. K. wisely concludes with the admonition not to accept too hastily the theory of the paper, but advises more general observation and closer study of the value of posture and change of pos-
ture in promoting shorter, easier, and less painful labors. To this end the paper is a valuable contribution.

Dr. Fry said that preference expressed by any one for this or that posture in labor referred, according to his view, to the position of the woman at the latter part of the second stage. When an obstetrician says he prefers the dorsal or lateral position, he does not mean that he places a woman in that position as soon as she gets control of a case, and keeps her lying so throughout her labor, as one might infer from Dr. King's paper. All obstetric authorities agree in advising that during the first stage the woman need not take to her bed; she can sit upon a chair, recline upon a sofa, or walk about the room. As soon as labor has advanced to that point when it becomes necessary to lie in bed, the patient can choose whatever posture, and as many different changes as she may desire, until the head has reached the pelvic floor, unless some special condition should exist that may make a certain posture advisable.

The importance of attention to the position in these exceptional cases was early forced upon his mind. He was attending a woman in her ninth or tenth confinement; she had been lying upon her left side for several hours, during which time strong labor pains accomplished but little advance. The os remained high and dilated slowly. Pains decreased, and she began to think an artificial termination of labor would be needed. The woman was turned in the dorsal position, and he noticed that the lax abdominal walls failed to support the uterus in the proper axis. The lateral deviation was corrected, the head slipped off the right linea ilia pectinea, and with a few pains the child was born.

During the majority of labors, however, we can do but little to facilitate the progress of the first stage by means of position. Sedatives, or anesthetics properly administered, are more reliable.

Dr. Fry could not accept what Dr. King said concerning the change in posture preventing muscle fatigue. In all labors he recognizes two forces, an expellant and a resisting. The expellant force is the contraction of the uterine and voluntary muscles. These muscles undergo the same contraction and relaxation without regard to posture of women, and they become exhausted in proportion to the amount of work they perform, and its duration.

The resisting force is that opposed by the canal to the passage of the presenting part.

While change in posture does not relieve, to any extent, the expelling force, it may diminish the resisting, as in the exceptional case cited above.

During the early part of the second stage he often favored the dorsal position. The woman can pull upon the hands of those sitting at each side, counter-pressure is made against her knees, which are flexed upon the thighs, and the thighs upon the abdomen, while the shoulders being raised upon pillows, the diaphragm and abdominal muscles act to advantage.

As soon as the head comes in contact with, or begins to dilate the pelvic floor, he always places the woman in the left lateral posture.

He agrees with Dr. Busey that the instinct of a woman teaches her nothing of the progress of her labor until the head is upon the perineum.

Dr. King quotes the statement made by Schroeder of the disad-
vantage of the dorsal posture during the birth of the head. He might have quoted the same author in favor of the squatting posture. S. says he has examined primiparae who were delivered upon the streets, and in such position, and in not one of them was the perineum injured.

Dr. Fry disagreed with the ingenious theory of Dr. King, that, when women knelt, the heels pressed against the great sacro-sciatic foramen, and thus favored delayed rotation. Pressure at these points influences rotation towards the sacrum. This is desirable only when the occiput is in front, and in such cases rotation readily takes place. When the occiput is situated posteriorly, the pressure at this point does harm by interfering with anterior rotation, or even by causing rotation of the occiput backwards.

He also took exception to the statement that the pressure of the woman's thighs upon the abdomen might imitate the hands of the obstetrician, and correct lateral presentations. The mechanism is entirely different. The thighs press both ends of the fetal ovoid in one direction; the obstetrician presses them in different directions.

Although outside the limit of the paper, Dr. Fry desired to say a word or two regarding posture during the third stage. Playfair advises—and it is no doubt practised by some—to express the placenta while the woman remains in the left lateral posture. There is an illustration in his work on obstetrics of the woman in this position, while the obstetrician's right hand receives the placenta, which is expressed by the left upon the abdomen.

One is unable thus to carry out fully the directions of Credé, and consequently is less apt to succeed. In a certain proportion of cases, however, he will be unfortunate enough to accomplish the delivery—unfortunate, because his patient is exposed thereby to fresh dangers, viz., the entrance of air into the vagina. The mechanism needs no explanation.

Dr. Fry had discarded this manner of expression after he once heard the air rush in with an audible sound.

The dangers of septic infection and air embolism were apparent.

Dr. H. L. E. Johnson thought the subject an interesting and important one. He could not understand from the paper whether it referred to different stages or the second stage alone. The paper, of course, deals with natural labor and cites good authorities for both side and back positions. He delivered on the back with the shoulders elevated; that position favored increase and force of pains. In change of posture from back to side the pains are often increased. The position on back as described facilitates descent of head, and we also have the weight of child and fluids assisting. In the side position the uterus is removed from the pelvis and the abdominal muscles have to raise and force back the uterus, child, and fluid, and by this considerable force is lost. Dr. King's analogy of labor in lower animals, correct as to mammalia, differs in anatomy but the principle is the same. The comparison of colic and labor pains is correct. Labor is physiological, so is the passage of gail stones, etc. The formation of stone is pathological, the stone being a foreign body; the child is also a foreign body, after the completion of the period of utero-gestation. Labor pains are often mistaken, by physicians who should know better, for colic.

One position is unfavorable; midwives often forcing patients to
lie in one position for hours, sometimes not allowing them to move their hands, with the result of materially prolonging labor. He agreed with Dr. Fry that delivery of the placenta with patient on the side was dangerous, as air might enter the vagina and uterus. He did not agree with Dr. Busey and Dr. Smith, and was surprised to hear them say that there is no difference in character of labor in different classes of patients. He had an opportunity of delivering a large number of women, in which was represented every class of society, including the lowest class of negro and the most delicately reared and cultivated white patient. The lower classes invariably had easy and rapid labors, except in cases of deformity. The better classes of patients always have long labors and suffer much more pain and are much more exhausted. He has had a series of experiments in the middle and lower classes, where fifty or sixty women were gotten up on the second and third day after labor, without the least detriment, but, on the contrary, benefit to themselves. He had examined their generative organs within three weeks after labor, and never found displacements, subinvolution, or inflammatory changes. He would not like to try this experiment in the best classes.

Dr. Smith said it would be unreasonable to expect that one posture would suit all women in labor. Physical ailments, deformities, shape of pelvis, inclination of sacrum, etc., are some causes which would militate against such a view. He thought Dr. King in error when he said, in his fifth proposition, that, owing to the fact that the normal mechanism of labor is imperfectly understood, "the selection of given postures for given conditions cannot be defined without further study." If there is any class of cases in which posture is available to assist labor, it certainly must be in those where the "conditions" are known. Surely no one would try to accomplish anything by change of posture unless he knew what the existing condition was.

Among the indications for change of posture Dr. King gives "instinctive desire for it." This question of "instinct" is one which Dr. King refers to in several places; he believes it ought to be one of the factors "in determining our opinion as to the best posture for delivery;" and further, that "no single pain should occur, when the labor is well advanced into the first stage, without the woman instinctively recognizing some appreciable progress." In these views Dr. Smith does not concur. A woman knows nothing instinctively about what is going on until the presenting part reaches the perineum, when she has an instinctive desire to defecate, while the truth is that her instinct is at fault. Some years ago, a primipara, while in the second stage of labor, sprang up in bed, and seizing the arm of her mother-in-law, nearly bit a piece of flesh from the arm. Now, this may have been an instinctive desire to have revenge on that much-abused member of the family, but to say that it was the pointing of instinct which demanded a change of posture to facilitate the progress of the child will scarcely be admitted. The fact is, that when a woman desires to change her posture it is usually for the purpose of assuming one that is only less miserable than the one she occupies, but there is no fact that serves to demonstrate that she does this for the purpose assumed by Dr. King. If we concede that Dr. King is right in asserting that a woman should instinctively recognize some progress with every pain, then it will be our duty to change a woman's posture to suit the changed position of the presenting part. This, truly, would be "meddlesome midwifery."
Dr. Busey should receive our thanks for the emphasis with which he has controverted the statement that women in the higher walks of life have more difficult labors than their sisters who move in a lower social sphere. Statistics are likely to prove that the greatest number of difficult labors occur among women in the lower walks of life, and reason and analogy would seem to indicate that such should be the case.

Dr. Fry.—In regard to the comparative dangers of labor, as met with in the higher and lower walks of life, he would add that the lower classes suffered more from deformed pelves, and are probably more subject to extra-uterine fetation, on account of the prevalence among them of gonorrhea and tubal disease. Women in the higher scale of life undoubtedly needed the assistance of forceps in a much larger proportion of cases in consequence of deficient muscular development.

Dr. King in closing the discussion, expressed his gratification that the paper had been of sufficient interest to elicit the lengthy consideration which had been accorded it by the members of the Society. He had very little to say in reply, but there were one or two statements made by Dr. Busey to which he would refer.

First: he would like to remark that there was nothing new in the paper—absolutely nothing—every statement he had made had been made before by the authorities, and reiterated in the textbooks. The comparison of labor pains with colic; the alteration in the direction of the forces of labor by change of posture; the remarks on muscular tire, etc., all were old, and, as he thought, well-recognized statements. Dr. Busey had said that the comparison of labor pains with colic in other canals was not well founded for the reason that a labor pain was a physiological contraction, while a colic was a pathological phenomenon. To this he would reply: that the physiological uterine contractions of natural labor, when there existed no abnormal resistance to the passage of the child, should be compared (in the case of the intestine, for example) with the normal contraction of the bowel in the ordinary act of defecation. Both cases were here physiological, and both were free from any great pain, except, perhaps, that kind of "pleasing pain or painful pleasure" which we all sometimes feel in getting rid of a rather constipated stool. But let there become impediment to the passage of the child in the labor case; and some impediment to the passage of fecal matter in the case of stool, then the muscular contractions in either case go beyond the physiological limit: they both become colic. In normal labor there should be no uterine colic: in normal defecation, no intestinal colic. Women were occasionally met with, even nowadays, who were delivered without any great pain; but in civilized life there were numerous factors contributing to render labor painful, besides neglect of posture, one of these being admixture of races and crossing of breeds or families, especially when a woman belonging to a family having small heads and small pelves, married a man belonging to a large-headed family. If a woman with a small pelvis married a man who wore a No. 7½ hat, she would most likely require forceps in labor.

In reply to Dr. Busey's question as to whether a resort to change of posture could reduce the mortality of lying-in women to less than half of one per cent, which was the present rate of mortality in some of the maternity hospitals, Dr. King said that his paper did not refer to mortality, but to the prolonged agony of
labor. It was not enough that the woman barely escapes with her life, but it was our duty to shorten the "hours and hours of miserable agony" she so often endures in labor, and with this latter object in view, the utilization of postural change had been suggested.

Dr. Busey (and Dr. Smith also) had spoken somewhat incredulously of the instinctive desires and emotions of lying-in women. Dr. B. did not believe in "instinctive obstetrics." Both gentlemen had exaggerated the statement made by Dr. King as to the woman's recognition of progress; but in reply Dr. King said he felt quite sure that gentlemen possessing the fact and experience and powers of observation of Dr. Busey, Dr. Smith, and other members of the Society, would not fail to discriminate between the ordinary complaints and fears of laboring women, and that other kind of more pronounced mental disquietude and ungovernable peevishness in which the encouraging word of the physician no longer avails, and in which the woman is convinced that her pains "do no good," and coupled with which the physician himself observes that progress has stopped. These are the cases in which decided change of posture ought to be tried, in which it has often succeeded in promoting progress; when, even before the presenting part reaches the perineum, the woman's contentment will return.

Dr. King, continuing, said his main object had been, not only to discuss the relative merits of the dorsal, lateral, and inclined recumbent postures, but also to recommend, what was now so much neglected, a judicious resort to the kneeling, sitting, and squatting positions. And yet, as it appeared, we were afraid to try these latter postures, although we learn of plenty of cases in which they have safely expedited delivery. And what harm could follow from trying them?

Dr. K., in referring to Dr. H. L. E. Johnson's remark, said it was not so much riches and social position that made the difference between women in the higher and lower walks of life, as it was the degree of the development of their muscles and nervous system from daily work. Other things being equal, the woman accustomed to muscular labor would be delivered more easily and quickly than a feeble and idle woman, because of her stronger muscles.

With regard to the alleged inconsistencies found by Dr. Smith in the final propositions summing up the paper, Dr. King said it was easy, by a critical dissection of words and sentences, to point out errors of composition in productions hastily written, yet he had no fear but that the general meaning of what he had written would be recognized and understood without the appearance of any very glaring inconsistencies.

At the conclusion of Dr. King's reply, Dr. Busey asked, if it were true that strong, muscular women usually had short labors, how Dr. King would account for women who were far advanced in phthisis having easy labors? Dr. King mentioned smallness of the child, and prematurity of the labor, as probable factors in such cases.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of November 8th, 1888.

The President, G. S. Mitchell, in the Chair.

DOUBLE PLACENTA WITH SINGLE CHILD.

Dr. Wm. H. Taylor presented an interesting specimen of double placenta, "placenta bipartita," from a single child; the segments measured respectively four and one-half by six inches and four and three-quarters by six inches; the weight of the mass was ten pounds. The parenchymatous structure of the segments was entirely separated a distance of more than an inch, the two portions being united by the membranes and one set of vessels, the vein of which was larger than an ordinary lead-pencil; these vessels can be traced directly to the umbilical cord which enters one placenta at its margin ("battledoor"); otherwise there is no vascular connection between the two portions.

In Martin’s "Atlas," edited by F. Barnes, Fig. 1, Plate LXIX. represents a very similar specimen, except there appear to be three sets of connecting vessels instead of one.

Dr. E. S. Stevens cited a recent number of the Medical Press and Circular in which reference is made to a similar specimen exhibited in Paris.

Dr. Taylor also reported a case of

TWINS WITH SEPARATE PLACENTÆ,

in which, after the birth of the first child and rupture of the sac of the second, its birth was delayed by the placenta of the first lodging in the os uteri, thereby obstructing the passage of the child. The placenta was extracted, when the child, presenting by the breech, was speedily delivered spontaneously.

At the Cincinnati Hospital recently, twins were born with separate placenta.

Dr. Wenning said these cases of placenta succenturiata were rare, but Dr. Taylor’s case was of special interest on account of the large size of the secondary placenta, which equalled the primary one. Hyrtl illustrates a similar specimen in his work on the anatomy of the blood-vessels of the placenta (Plate XI.), but in this drawing the second placenta is considerably smaller than the first, and the anastomoses occur by two separate blood-vessels, one artery and one vein, which run along the margin of the membrane, connecting the two placenta. He calls this anomaly placenta fenestrala, on account of the window-like opening in the whole structure.
Dr. Gustav Zinke regarded the specimen as interesting on account of its rarity and peculiarity, but more so on account of the method of its origin. The fact that there was but a single cord in one placenta, and the larger vessel passing across the isthmus to the other, proved that there must have been some obstruction to the development of the villi of the chorion, corresponding to the line of separation between the two lobes of the placenta; atrophy resulting as a consequence when the placenta was being formed. This occurred probably between the second and third month, and might have been due to the presence of a cicatrix inside of the uterine cavity, produced, perhaps, by a caustic application to the uterine cavity at a previous date, or the villi and mucous membrane opposite the same may have been injured by an attempt to create abortion through the medium of an instrument introduced with a view to destroy the ovum.

VAGINAL EXTRIPATION OF THE UTERUS FOR CANCER OF THE CERVIX.

Dr. Chas. Reed exhibited a uterus recently extirpated for cancer by vaginal hysterectomy. The patient was a married lady, 41 years of age, who had been in good health up to a few months ago. She then began to complain of metrorrhagia, which increased in severity. Her physician told her it was due to change of life. As the difficulty continued, she finally consulted Dr. Johnson, of this city, who discovered a carcinoma of the uterus. One week later the speaker examined the case. An examination revealed a cancerous degeneration of the posterior lip, extending also somewhat upon the anterior lip. No adjacent structures or lymphatics appeared to be involved in the disease. The patient, however, showed a marked cachexia. Extirpation of the organ was advised as the only hope of saving or prolonging life. The operation was performed without encountering any great difficulty; the uterus was easily brought down and the lateral ligaments were clamped, no ligature being used during the operation. The forceps were allowed to remain, and the patient put to bed in a comfortable condition. In three hours she died, however, from shock.

The point of interest in the case was the manner of death. Shock is rare after these operations. The question arises, Do clamps increase the tendency to nervous shock by compressing certain nervous filaments of the broad ligaments? Secondly, to what extent ought we to look upon cachexia as an element of danger in this direction? Wathen, of Louisville, emphasizes marked cachexia as one of the contra-indications of hysterectomy for cancer.

Dr. Wenning, who assisted at the operation and was called to see the patient just before her death, said death could only be attributed to shock. A careful subsequent examination showed no hemorrhage whatsoever. The operation itself presented no unusual difficulties, and the loss of blood at the time was very small. The very marked cachexia, which did not correspond with the local symptoms, struck the speaker at once, and to this he also attributed her rapid death. The patient must have lost a consid-
erable amount of blood previous to the operation, which so reduced her vitality and resisting power that it required but very little to carry her off. To what extent the clamps were to be held accountable for the onset of nervous shock the speaker did not know, but he would call attention to the fact that the most successful operators in Germany universally employ the ligature previous to extirpation.

Dr. Gustav Zinke said that when the subject was up for discussion some time ago the opinion was expressed that the high amputation is to be preferred in any case where the disease is limited to the cervix. The case reported then was one in which this operation should have been performed in preference to extirpation of the whole organ. If this had been done, the patient might have lived longer. It certainly is our duty not only to cure, if we can, but also to prolong life if possible. Thus we operate in these cases either with the object to cure or to give relief. If the whole of the diseased part can be successfully removed by taking out the uterus, we are certainly justified in doing so; if not, an operation for the removal of a part only of the diseased organ is indicated, since the shock consequent upon the extirpation of the entire uterus and its appendages is so great as to jeopardize the life of the patient to a very great degree.

Judging from the narration of the history and physical condition of the patient, as well as the subsequent course and termination as given by the reporter of the case, it would seem that, had he confined himself to the high operation, he would, perhaps, have given a certain amount of relief and prolongation of life.

Dr. Wenning replied that the choice of operation depended upon the involvement of tissue laterally as well as upwards. If the diseased structure be confined to the womb and upper part of the vagina, without invading the cellular tissue and adnexa, extirpation of the uterus was certainly indicated. If, however, the disease had spread considerably in a lateral direction also, neither total extirpation nor the high amputation would include all of the carcinomatous infiltration. If we could rest assured that the latter operation would remove all of the diseased tissue up to the inner os, it might be held under consideration as preferable in some cases to total extirpation; but the difficulty lies in determining exactly how far upwards the disease has spread, and it was for this reason that total extirpation of the uterus for cervical carcinoma was recommended. In carcinoma of the body, provided the case was one permitting any operation, of course total extirpation could be the only operation to be thought of.

Dr. Zinke was certainly mistaken when he stated that the high amputation was regarded at the present time as preferable to extirpation. All foreign literature on this subject—at least German and French—shows that hysterectomy for cancer is practised more and more, and also with increasing success. Leopold alone has reported 42 recoveries out of 48 cases. It is with this as with all capital operations: increased skill and dexterity of the individual operator, coupled with the earlier recognition of the disease by the attending physician, render the prognosis more and more favorable. The profession, at least in Germany, is becoming wide awake to the hopefulness of cure when a case is operated on early by a radical operation, and hence the cases to be operated upon are becoming gradually better subjects for an operation. The speaker believed that the profession was at the present day almost
unanimous in opinion that cancer is at first a local disease, and its prompt extirpation will therefore arrest its further progress.

As regards Dr. Reed's case, the speaker thought the marked cachexia was perhaps a contra-indication. He did not see the case until it was upon the operating-table, but her blanched appearance impressed him at once. He could testify, however, that the operation was done quickly and skilfully without any appreciable loss of blood.

Dr. W. H. Taylor remarked that whilst theoretically there was a sharp line of demarcation between the two operations, it was not so practically. If we could remove all of the diseased structure by cutting off the lower portion of the uterus, then all right; this is the operation to be performed: but often there are several foci of disease, and removal of the cervix will not remove all of them.

But he believed that total extirpation of the uterus was the easier of the two; the vascular distribution around the cervix is of such a nature that, if we reach the vessels from the inside, it is difficult to control the hemorrhage; but if we keep on the outside of the uterus, we can control it more readily. The best means of preventing hemorrhage seems to be by means of clamps. Etheridge, of Chicago, said that he had removed one uterus in eleven, and another in seven minutes, without knowing that he was timed during the operation.

As regards the question of clamps increasing the tendency to nervous shock, he was unable to say whether that was the fact; but all operators agree that the operation can be performed more rapidly with clamps than ligature, and the latter may slip and cause death from hemorrhage, even to the best operators. It is possible that the pressure by clamps may cause shock, but on the other hand it is safer against hemorrhage.

Dr. Reed also believed the accepted practice of to-day was in favor of the radical operation. In the case reported, the high operation—cervical amputation—was hardly practicable, because not only was the cervico-vaginal junction invaded by the disease, but also the tissues of the vagina. The mortality is not more favorable in high amputation than in total extirpation of the uterus.

Dr. White said the whole question of the kind of operation to be done could be summed up in this simple rule: if the total extirpation renders possible the extirpation of all of the diseased structure, that is the operation to be decided upon; if, however, the disease has extended so far that a total eradication was impossible, the high amputation might be resorted to; but this was no cure.

Dr. Mitchell thought that the drift of professional opinion was not altogether in favor of the total extirpation of the uterus for cancer. Cancer of the cervix rarely extends beyond the os internum before the adjacent tissues also have become involved. The very presence of a marked cachexia in the case reported proves that a metastasis of cancerous disease had already taken place, although such an occurrence does not belong to epithelioma. The system of this patient was already thoroughly saturated with the poison. High amputation in her case would have removed as much diseased tissue as extirpation.
REVIEW.


It is with pleasure that we announce an English translation of Schultze's well-known work—a work which, though severely criticised in many particulars on its first appearance in 1881, has now gained many disciples. It is distinctly personal, and its theories and teachings are entirely the outcome of its author's experience and careful and patient observation. Its descriptions are full, accurate, and clear. The illustrations are careful scale drawings, clear and accurate, and form a most important part of the work. Uterine dislocations are exceedingly common and their treatment by the average practitioner is often exceedingly unsatisfactory. A perusal of this treatise will certainly, as its author hopes, "contribute to make the displacements of the uterus better known, and more frequently recognized and justly appreciated in ordinary practice, and give more confidence in the successful treatment of these affections." (See Review in this JOURNAL for 1883, page 90.)

ABSTRACTS.

1. F. Ganghofer: Carcinoma of the Uterus in an Eight-Year-Old Girl (Zeitschrift für Heilkunde, V., 1888.)—A girl, 8 years of age, moderately well nourished, had suffered for the last two or three years almost without interruption with hemorrhages from the genitals. On examining by means of the speculum, a growth the size of a hazelnut, lobulated, with granulated surface of a pale reddish-gray color, was observed on the anterior lip of the os uteri, and which also extended somewhat over upon the anterior vaginal wall. The growth bled upon gentle touch, and at the same time a piece the size of a pea came away. On account of the persistence of the hemorrhage, the tumor was removed two days later with the scissors and the surface of the wound cauterized. The microscopic examination proved it to be a medullary carcinoma which had its origin from the cervical mucous glands of the portio vaginalis uteri.

P. P.

2. E. L. Maisel: The Treatment of Parenchymatous Mastitis and Inflammation of the Mammary Gland by White Clay (Wratsch., XXI., 1888.)—Induced by the results which Dr. Lukaschewitsch obtained in the
treatment of epididymitis by clay, Maisel undertook to treat the above processes in the same manner and obtained very happy results. Although he has only observed twelve cases, yet he feels justified in recommending this method warmly.

The application is as follows: A clay-pulp of uniform consistency is prepared and is spread upon a piece of linen or gauze of the size of the breast; in the centre a hole is cut for the nipple. Before the application the breast is washed off and covered with white gauze; then the clay-pulp is applied. The latter is held in position by a bandage and suspension of the breast secured. The dressing is changed twice a day.

At the same time Maisel observed that this application does excellent service in the infiltrations and pains which accompanied the interruption of suckling the child, causing these disagreeable phenomena very soon to disappear.

3. Henoch (Berlin): Cranial Fissures in Early Childhood (Berl. Klin. Wochenschr., XXIX., 1888).—Henoch reports two rare cases in each of which there was a cranial fissure in the infantile skull. The first case was that of a five-months and the second of a three-months-old child. Both fell sick of convulsions at about the age of four weeks. In one case there developed on the right side of the head above the ear a tumor about the size of a kidney, elastic and somewhat flat, which diminished in size on pressure. When the child cried, the tumor increased in size and became transparent. The skin over it was displaceable. Around the tumor a sharp, bony margin was perceptible. Upon puncture a clear, amber-colored albuminous fluid was drawn off. It had to be repeated twice. After the third puncture the tumor quickly diminished very considerably in size. A large fissure could only be noticed in the cranium. The child died after a few months from collapse. The post-mortem dissection revealed the following: Fracture of the parietal bone, spurious traumatic meningocoele, chronic adhesive pachymeningitis and arachnitis, recent meningitis of the pseudo-membranous variety, and chronic interstitial encephalitis.

In the other child was also found on the right side of the cranium a flat, somewhat soft prominence, which enlarged on coughing. It was also in this case surrounded by an elevated bony margin. Deeply in, a trifid fracture of the bone could be distinctly felt. The trial puncture revealed no serum, but blood only, for it was shown by the post-mortem examination that the tumor contained no fluid, but the apparent fluctuation was caused by the subjacent brain. The post-mortem examination revealed the same condition as in the first case. Henoch is of the opinion that the condition in question is not a congenital defect, but the consequence of traumatic influences. Whether these came into action before, during, or after birth, he leaves undecided. In the two cases described he is inclined to accept the latter view. If a cranial injury, at first perhaps only a cranial fissure takes place in such little children; it seems to enlarge from the borders by absorption of the osseous tissue in consequence of the slighter deposit of lime-salts, so that finally a cranial opening results. If this is large enough in the beginning, then a tumor forms at once by the perforation of the dura and pia mater, and pouring out of the cerebral and spinal fluid. Of the greatest importance is the part taken by the brain in this process, the encephalitis, which develops from the place of fracture or rather from the adhesions which had formed
between the dura mater, arachnoid, and the bones. It may penetrate deeply into the brain substance. It certainly caused the death of the children.

p. r.

4. E. Goth: A Case of Missed Labor, with Remarks on the Etiology of this Rare Phenomenon (Arch. f. Gyn., XXXII., 2).—The following case is narrated: The patient is married, has had previous good health. In September, 1884, conceived, and in February of the following year felt life. The end of pregnancy was computed about June 20th, 1885. She was perfectly well up to April, 1885, when she fell while on her way home, her abdomen receiving a very severe concussion; she was taken to her home and put to bed. The movements of the child ceased from this time on. The patient complaining of severe pains in abdomen, the latter were supposed to be those of a premature labor, and the midwife was summoned, but no labor set in. A physician was called in, who diagnosed diffuse peritonitis. The severer part of her illness lasted about six weeks, at the end of which time, however, she still complained of weakness and general malaise, but was out of bed and attempted to do her household tasks. At the end of June the amniotic fluid escaped after about an hour's pain in the back; the dribbling continued four days, accompanied by drawing pains in the abdomen. To the surprise of those who had regarded the flow as the forerunner of labor, the former ceased and weeks elapsed, and no fetus was expelled. The patient then noticed a cloudy, consistent, and extremely offensive discharge from the vulva. She passed the supposed term-time by two months without delivery, when she entered the maternity, but remained only a short time. During the following six weeks she suffered considerably, mostly from the offensive discharge. One day she suddenly felt lancinating pains and the sensation of a foreign body in the vagina, from which her husband removed a bone with his finger. Thenceforth her condition became more and more serious. By the end of December she suffered greatly from pain, had repeated fainting spells and chills with continued fever, very likely of septic nature. G. then saw her, and found the following: She was of medium size, was greatly emaciated, her tongue dry, and gait unsteady; abdomen somewhat enlarged; uterus tender on pressure, the rest of the abdomen not sensitive. On introducing the finger into the vagina, a great quantity of a dirty fluid suddenly streamed out, of indescribably offensive odor; the vagina was roomy, its walls destitute of folds and insensitive. The os was so far open that the finger could readily be insinuated into the cervix; at the end of the latter a flat, broad, thin bone was felt, entirely denuded of soft parts, with smooth borders almost as sharp as a razor; it was slightly movable. All made the impression as if the expulsion of fetal parts was imminent, for which reason nothing was done. Several weeks again elapsed without the expected expulsion, and the condition of the patient was constantly growing worse. In March, 1886, a large laminaria tent, followed by one of sponge, was introduced, dilatation taking place readily; it was then possible to introduce a slender forceps and to seize the presenting bone, but the smooth character of the latter allowed it to slip, and after half-hour's attempt at withdrawal, G. had to desist. A further attempt, made fourteen days later, likewise failed. Patient was now in a precarious condition; on the 28th of April, there was a sudden change; a copious diarrhea set in, during which, accompanied by severe lancinating pains, a number of bouses, including one of the cranium, were passed per rectum. In the hope that the
utérus would clear itself through the evident fistula, nothing further was attempted. The diarrhrea recurred, but the filthy discharge from the vulva persisted. During three weeks following a considerable number of small bones were passed, likewise various epidermic growths, fascia, and portions of mesentery. During the next week the discharge of fetal bones ceased, although the fistula remained patent. In August, 1886, the cervix was split bilaterally up to the vaginal vault. The smooth bone was found bound down by mucous membrane, and was removed with great difficulty. The clearing out of the uterus was then easily accomplished. The fistulous opening was not discovered by the exploring finger. Good success now supervened; fever and offensive discharge ceased in a few days, and patient rapidly recovered excellent health. Fecal-smelling masses were expelled from the vagina for some time, but finally disappeared. Patient now menstruates regularly, and is a good worker. G. thinks, with regard to etiology, that missed labor results when the muscularis of the uterus, either in entirety or in part, becomes the subject of pathological changes which unfit it to perform its physiological functions. These changes are either of inflammatory origin, as in the case cited, or dependent upon new formations, in which carcinomatous infiltration of the muscular fibres produce such debility in the latter as to make the expulsive power puerile. This explanation suffices to account for the rarity of the occurrence of missed labor. Carcinomatous infiltration affects by preference the neck of the womb; and in the rare cases in which the former process affects the body, conception would necessarily be difficult of consummation, as the mucous membrane offers a very poor site for the growth of the ovum. That missed labor in consequence of metritic processes has been so seldom observed is owing to the rarity with which inflammatory processes occur in the parenchyma of the uterus.

L. R.

5. F. Ahlfeldt: Report of the Marburg Obstetrical Clinic and Polyclinic for the Year ending March 31st, 1888 (Deutsch. Med. Wochenschr., 1888).—There were during the year 308 confinements, of which 157 were primipara and 151 multipara. Youngest 17, oldest 48 years. Of the presentations 285 were vertex, 2 face, 1 brow, 10 breech, 5 foot, 5 transverse, 6 unrecognized. Operative procedures were as follows: One Cesarean section, 3 forceps, 3 cephalic versions, 3 podalic versions, 3 Crede’s expressions of placenta, 1 manual removal of placenta. Of the 308 women confined none died. Seventy per cent were entirely free from any post-partum rise of temperature.

Two waiting women died of hyperemesis gravidarum.

In 4 cases of nephritis there was considerable post-partum hemorrhage.

Of the 313 children, 155 were boys and 158 girls. There were 6 pairs of twins. There were altogether 42 deaths and still-births, making the infant mortality 13.4%.

W. L. B.
In January, 1885, I published in the Am. Journal of Obstetrics a list of 45 opinions of contemporary authorities in regard to the propriety and value of intra-uterine medication. Among these, 40 were expressed in favor of such medication and 5 against it. Between 1885 and 1887 other opinions on the subject were expressed publicly 24 times—18 times in favor, and 6 times in opposition. But among the six opponents reappeared the names of Thomas, Emmet, and Bache Emmet, which had already been prominent in earlier debates on the question. So that, to judge from these statistics alone, it would appear as if the numerical preponderance of medical authority was so decidedly in favor of the method that systematic defence of it was superfluous.

Or, on the other hand, since the endometrium is a tissue whose disease is unquestionably frequent, it might seem superfluous to claim that such disease requires treatment. Nevertheless, this claim is not unfrequently denied, and that for one of several reasons, e. g., disease of the endometrium will always
yield to suitable indirect treatment, as of periuterine inflammation, "cellulitis" (Emmet), or of mechanical conditions, displacements, etc. (Thomas). Or, disease of the endometrium is trifling if uncomplicated, and if complicated its local treatment is too dangerous to be undertaken. Moreover, in such a case the symptoms are due, not to the endometritis, but to the complication. Or denunciations are made of those who "concentrate all their attention on the endometrium, and overlook the morbid conditions of the ovaries, tubes, peritoneum and connective tissue, which are much more important."

It has always struck me that these denunciations were both irrelevant and useless. Undoubtedly, during the last ten years, a flood of light has been thrown upon uterine diseases by the more precise demonstration of periuterine diseases, especially of salpingitis and localized peritonitis of the posterior cul-de-sac; and this demonstration has explained many of the dangers and much of the ill success of earlier uterine medication, chemical or mechanical. It is as ridiculous to-day to make a diagnosis of metritis or uterine catarrh without taking into consideration periuterine tissues and organs, as to restrict a diagnosis to a uterine displacement and overlook the metritis or peritonitis on which the mechanical condition usually depends.

But when everything is considered, the facts of endometritis remain, and remain, we believe, as the original morbid process in which all the rest originates, and which, until cured, will continue to render a woman more or less of an invalid; will continue, moreover, to render imminent new attacks of periuterine disease, even when this latter had for a time subsided.

It has seemed worth while, therefore, to analyze in detail a certain number of cases of endometritis with intra-uterine medication, in order to observe more precisely the immediate as well as the remote effects of this, and to ascertain how they may be correlated with the physiological and morbid processes sustained in the organs treated.

The fundamental idea governing this analysis has been that stated at length in the papers on endometritis which I have published in earlier numbers of this journal. The conclusions may thus be summarized:

The physiological processes contained in the utero-ovarian system constitute three great cycles—the menstrual, the par-
turient, and the total reproductive cycle which begins at puberty and ends at the menopause. Any treatment, local or general, must modify these processes, and especially the menstrual. The modification will vary with the precise moment of the period at which the treatment is instituted.

"The chronic metritis of parous women originates in a perversion of the regressive period in the great parturient cycle of reproduction. In one form it remains identical with this perversion (i.e., is constituted by subinvolution). In another, the original conditions have become complicated. The most rudimentary complication is on the endometrium, and results in fungous endometritis; the most developed is in the parenchyma, with a perivascular sclerosis, causing true chronic metritis."

"This chronic metritis of parous women is not initiated during pregnancy, or the ascending phase of a reproductive cycle, but during involution, or the descending phase. So the chronic metritis of nulliparae, as also that which occasionally develops in the intervals of child-bearing, does not originate in the formative stage of menstruation, but during the decline of the process, in an imperfect involution of tissues which have developed during the intermenstrual period; it constitutes, therefore, a menstrual subinvolution."

"Thus, homologous, i.e., non-infectious, utero-ovarian disease consists essentially in the persistence of an excess of reproductive tissues, which are moreover altered in character. The essential aim of treatment must always be to destroy this excess of tissue; and all successful methods of treatment will be found to have this effect." 1

After recalling this preliminary statement, we will now give the results of the detailed examination of a certain number of cases. This shows that the following effects immediately succeed to an intra-uterine application.

1st. Contraction of the muscular fibre of the uterus, causing (a) sharp colic pain; (b) pallor of the visible part, the portio vaginalis; (c) compression of blood-vessels, as indicated by this pallor. These effects are omitted if the application has been preceded by slow dilatation by means of tents.

2d. Bleeding from the mucosa, with which the drug employed has come immediately into contact. This may be omitted, how-

ever, if a strong caustic has been used. When it occurs, it may stop in a few moments, or else continue for several hours, or even for a day or two.

3d. During several hours after the application, the patient experiences painful sensations, which vary from that of a simple weight, burning or bearing-down feeling in the hypogastrium, to severe pain, continuous or intermittent, paroxysmal and cramp-like.

4th. Sometimes cramps do not occur immediately upon making the application; there is no reflex muscular contraction caused by irritation of the endometrium, but diffused pelvic pain of moderate or great severity comes on within fifteen minutes or an hour, and lasts for several hours. The significance of this pain is evidently different from that of the primary cramp, and is identical with that of the obtuse continuous pain which habitually follows the cramp. It implies a dilatation of blood-vessels in the submucous parenchyma of the uterus, and in the perinterine tissue. This hyperemia is partly vaso-paralytic, secondary to the transitory reflex contraction of blood-vessels, which is the first consequence of irritating the endometrium; it is partly direct, an afflux of blood due to the attractive influence of the irritation of the spinal filaments in the uterine nerves.

This active afflux of blood always occurs. The cramp, primary contraction of blood-vessels, and relaxation secondary to that, is liable to be absent in those cases of chronic metritis where the muscular fibre has become edematous and hence deficient in contractility.

5th. From thirty-six to forty-eight hours after the uterine application bleeding from the uterus recurs and is accompanied by a discharge of membraniform shreds, or even an entire piece of membrane. This is the eschar formed by the caustic, and which is thrown off. The separation of the eschar is effected here, as elsewhere, by the agency of leucocytes emigrated through the walls of the subjacent blood-vessels dilated by the irritament.

The feeling of weight and soreness experienced by the patient, which, in the most favorable cases, subsides in a few hours, may last until after the separation of the eschar, or it may even continue throughout the month until the next menstruation.
6th. After cessation of the secondary bleeding, the leucorheal discharge which had existed previous to the treatment frequently diminishes to a marked extent. Coincidently, pelvic pains and irradiated nervous symptoms also diminish, and the first menstruation after the treatment is much less painful. These are the entirely favorable cases.

In other cases the pain caused by the application may persist until the following menstruation; yet this may be less painful than usual, and after it the patient may feel much improved; or, though the immediate pain subside, and the patient feel pretty well during the month, the first menstruation may be unusually painful. It may also be delayed, and the pain is then prolonged; or it may be accelerated and profuse, but painless, the latter combination being a decidedly favorable one. Sometimes an unusually painful menstruation follows upon pain which has persisted throughout the month. The immediate result of the treatment must then be considered unfavorable, and prospect of benefit deferred until the involution period of this menstrual cycle is accomplished, when improvement may still be manifested.

The uterine contractions, uterine and periuterine hyperemia, and the destruction and sloughing (exfoliation) for a portion of the endometrium are the obvious immediate consequences of the usual intra-uterine medications. How can these immediate results modify metritis?

The first and principal result obtained is the partial destruction of the diseased endometrium. It is not modified or subjected to an "alterative influence;" it is destroyed, at least in its superficial layers. The excess of tissue, that which has remained subinvolved, is in part removed; just as the excess of tissue at the cervix is removed when it is rolled in during the Emmet operation or excised in the Simon operation. The central purpose of intra-uterine mediation is surgical, the direct ablation of diseased tissue. There is really very little difference between the operation of curetting in fungous endometritis and the operation of applying caustics in glandular and interstitial endometritis. So much so that, as recommended by Martin of Berlin, the curetting may often advantageously replace the caustic, in the one as in the other form of disease.

The advantage of the ablation of diseased tissue is limited by two circumstances. It can hardly be rendered complete;
certainly is not so with the habitual medications which are nevertheless successful; and the incessant renewal of the menstrual process, with its current liability to subinvolution of periodically developed tissue, tends to reproduce the entire morbid condition and soon efface all traces of the operation. It is in this unfortunate respect that the local treatment of uterine disease differs in effectiveness from the surgical treatment of benign neoplasm elsewhere, and approximates to the treatment of malignant growths where extirpation of morbid tissue is useless, because of the persistence of the process which will result in its reproduction.

Fortunately, the collateral influence of uterine cautery extends beyond its immediate effect in the destruction of tissue. In the first place the contractions of the uterine parenchyma excited, cause compression of the dilated veins, and thus accelerate the blood current through them which has been for so long sluggish and stagnant. It seems probable that this temporary excitation of the contractile fibre tends to restore its tone, as is often the case after a temporary excitation by electricity.

Again, the active hyperemia of uterine and periuterine tissue which is the conspicuous secondary consequence of the cauterization, implies an increased afflux of arterial blood. This is the characteristic agency for dispelling venous congestion. An increased arterialization of pelvic tissues: this is the essential aim of all uterine therapeutics. And this is what may be expected from the appropriate use of intra-uterine medication.

In this connection it is again a pleasure to quote Mayrhofer:

"The gynecologist treating a chronic inflammation of the uterus must endeavor to determine to the diseased organ an active congestion of highly arterialized blood, and to keep it there as long as possible. Constitutional treatment all tends in the same direction, namely, to increase the force of the heart and improve the quantity and quality of the blood." 1

I do not think I have found another writer who admits that intra-uterine medication is useful, not only for endometritis,

1 Mayrhofer remarks that "hitherto physicians have been too apt to consider the contractile force of the uterus merely in its relation to parturition. Yet the gynecologist must constantly appeal to the force of this muscle, in combating the chronic inflammations of the uterine parenchyma." ("Handbuch Billroth und Pitha," 2d Absch., 2 Half., p. 100.)

2 Loc. cit.
but for metritis. Fritsch and Winckel, for example, both pass over the subject in complete silence. Yet the principle of irritating chronically inflamed tissue, in order to determine to it an afflux of arterial blood, is widely admitted in general therapeutics.

The cauterization of conjunctival granulations; the removal of fungous and tuberculous tissue in osteitis; the cauterization of chronic ulcers and fistulae; even irritating applications to hyperemic mucous membranes, all illustrate the same method. Where inflammatory neoplasm exists, its removal is essential, in order to get rid of a source of recurrent irritation and even infection. But in addition, the afflux of arterial blood is sought as a powerful means of dissipating venous hyperemia, and of thus removing the condition which would, if left unchanged, soon reproduce the neoplasm. How does the active hyperemia determined by the cauterization differ from that which spontaneously results from the irritation of the diseased tissue?

The classical answer to this question really covers the ground. The first stage of an active inflammation is substituted for the ultimates stages of a chronic inflammation. The term "substitutive irritation," which figures so largely in the therapeutics of Trousseau and Pidoux, is not, like some of the other terms there, a metaphysical entity, but corresponds to a real succession of phenomena. The success of the medication evidently depends upon the limitation of the artificial irritation to this first stage; otherwise the last state of the patient will be, and often is, much worse than the first.

The secondary exfoliation of the endometrium is another phenomenon common to uterine and other cauterizations. It is noteworthy, however, that the endometrium sloughs under a much less powerful application than is needed to destroy the vitality of other tissues. This fragility is correlated with the tendency to spontaneous exfoliation inherent in the normal life processes of the endometrium. It is the habit of its superficial epithelium to lose its vitality under pressure as soon as the two surfaces of the membrane have developed sufficiently to completely fill the uterine cavity, and thus come into contact with one another. The formation of the eschar is progressive, and extends beyond the tissue which may have been directly coagulated by the caustic. This shows that even the diluted effect of the
latter suffices to impair the vitality of tissue elements, which, thus injured, finally die. The dead tissue acts as a foreign body, whose irritation dilates the blood-vessels immediately subjacent, injuring them sufficiently to permit the escape of leucocytes; thus a large territory of blood-vessels is disengorged by the same mechanism that removes the eschar. Not only white corpuscles, but serum and blood escape from the vessels; the bleeding may indeed be profuse, and it is then evident that the effect has extended beyond the point of immediate contact of dead and living tissues, and into the depths of the parenchyma. In this case the disengorgement after the artificially produced exfoliation of the endometrium simulates that consequent upon the spontaneous exfoliation of the menstrual crisis. An artificial involution is thus brought about, which repairs, in part at least, the lesions of previous sub involutions. These circumstances are peculiar to uterine cauterization, and distinguish it from the caustic treatment of chronic inflammation in other cases. Further peculiarities appear when we consider the effect of the intra-uterine medication upon the menstruation succeeding it; hence the effect upon the physiological process sustained in the uterus. Many among the patients suitably submitted to this medication only suffer at the menstrual period, and have few or no intermenstrual symptoms. It is observed that, after the immediate effect of the application has subsided, the patient is conscious of no especial change, but finds the pain of the first succeeding menstruation much lessened, or even absent altogether. In these cases the pain has depended upon one of two conditions, or both of them together: the relaxed blood-vessels of the parenchyma have been over-distended by blood during the overflow from the periuterine reservoirs; the fibre of the parenchyma has been, therefore, irritated, while, from deficient tonicity, it has been unable to compress the blood-vessels and further the circulation in them. In addition, the subinvolved endometrium has become excessively vascular at menstruation, tending to occlude the internal os, while at the same time the nervous excitation of the endometrium is increased. The cauterization combats the first morbid condition by stimulating reflexly the contractility and contractions of the uterine muscle. It acts upon the second cause of pain when it destroys a portion of the endometrium, and thus checks or inhibits its nutrition and process of growth.
Under these new circumstances, arterial tension has a chance to rise and effect a more complete menstrual involution by means of more highly oxygenated blood. Excessive reflex irritation from a diseased endometrium, though always acting upon the arterial afflux, will fail to raise arterial tension if the capillaries and veins be so numerous and so dilated as that the blood-current is absorbed and its velocity arrested. But if the intermenstrual venous hyperemia be diminished, then the normal rise of arterial tension at menstruation suffices to dissipate the normal amount of uterine venous hyperemia consequent upon the emptying of the peritoneal reservoir.

Thus the ultimate aim of intra-uterine medication is to so rectify the menstrual process that it shall begin to cure the metritis by effecting the involution of subinvolved tissue.

The principle is the same as when the involution processes of parturition are relied upon for the radical cure of a subinvolution left after a previous confinement, or when the cervix is partly excised to determine involution in a chronic metritis.1

(To be continued.)

REMARKS ON VAGINAL PROLAPSE, RECTOCELE, AND CYSTOCELE.2

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It is with pleasure that we see this Journal take up, in two recent contributions by Dudley and Marcy, the seemingly exhausted and over-ripe chapter on perineal repair; because, in

1Schwarz, in Centralblatt für Gynäkologie, 1885, advises, as the best treatment for many obstinate cases of chronic metritis, the wedge-shaped excision of both lips of the cervix uteri. The benefit results from the involution process which is thereupon initiated. In less severe cases, or where the operation is contraindicated by the fixation of the uterus, it is advised to make repeated injections of pure liq. ferri sesquichlorid. (!!) which energetically cauterizes the uterine mucosa, and causes long persisting contraction of the muscular wall. [This method is certainly among the most dangerous.]

2Partially read before the Galveston Medical Club.
spite of all that has been written, and in spite of the great number of operations in use, there still exists much of uncertainty and controversy. This condition seems to me due mostly to the desire of generalizing the ailments, which, as many different structures are concerned, must naturally be of different nature. In accord with this wrong view, the desire to find one general operation, instead of individualizing and adapting the operation to the particular case, obscures our action.

In the following I will endeavor to give my views on the detachment of the vagina from its natural surroundings as being the cause of prolapse, and in regard to the injuries leading to rectocele. These views are materially the same as in a series of articles written in 1887 for the Medical Register, and reprinted in book form. Three years of observation has made me change some of my ideas, though, to my gratification, I have found a good many further proofs and supports of them in literature. I am not ashamed of confessing these variations. Does not even Fritsch admit that with nearly every new case he operates on an additional or correcting thought occurs to him?

Tedious as it may appear, I cannot avoid making a few anatomical remarks.

A perusal of Marcy's contribution in the January number of this Journal will allow me to be brief. I would ask the reader to study this clear and practical treatise once more before forming his final verdict on the following lines. I may repeat, though, that the levatores ani constitute the most important portion of the pelvic floor, so far as the positions and the security of rectum and vagina are concerned. They hold these two pouches suspended, bring the posterior vaginal wall up to the anterior, closing in this way the vagina, and serve the uterine cervix as a kind of buffer. They are in fact, together with the other muscular strata of the pelvic diaphragm, the true supporting apparatus of the female genital system, whilst all the muscles outside of them have their individual offices, as sphincters or openers of the rectal, vulvar, and urethral outlets. The internal transverse muscle, though, serves the pelvic diaphragm as a kind of buttress, as Marcy's cuts clearly show, and

Prolapse, Rectocele, and Cystocele.

this muscle should therefore be considered fully in studying vaginal injuries. But it is plain that, in speaking of vaginal prolapse, and recto- and cystoceles, lesions confined to the peri-neal muscles will have only an indirect interest to us, as much as they may aggravate by their addition the more highly situated lesions.

Admitting now the importance of the pelvic diaphragm (levatoris especially), I deem myself justified in dividing the vaginal changes into those situated above, those within, and, finally, those below this structure. Such a division is by no means arbitrary, but based on anatomical and surgical considerations.

The vagina, before all, is not a cylindrical tube, with two horns on its upper end, floating loosely within the pelvis. It is a pouch, which, when distended, has the form of a retort, the belly formed by the supra-levatoric portion, while the infra-levatoric part is short and tubular. The point of division is the so-called vaginal promontory, which is formed by the levatoric angle. The vagina lies not perpendicularly in the pelvis, but has a nearly transverse position, from the pelvic arch to the sacral hollow. The belly of the retort is posteriorly firmly glued to the sacral fascia (say to the sacrum, to be easily understood), and is only in its middle line lifted up from it, in order to let the rectum pass. Between this latter and the vagina a finger-shaped process of Douglas' pouch intervenes to a different extent in different individuals. This sacral fastening is of the greatest importance; it holds the vagina in place, and gives its fixed point. From here it bends over to the cervix, forming the posterior fornix, which is fastened to the broad ligaments and the Douglas pouch by cellular tissue, and by bands containing muscular fibres (Savage) to the pelvic fascia. The vaginal musculature then becomes continuous with that of the cervix. In front, the vaginal fornix is adherent to the bladder, and this again to the pubes and the abdominal walls (Urachus); further on, the anterior vaginal wall becomes more firmly attached to the pubic rami and the triangular ligament. Thus the supra-levatoric vagina forms an arch, based posteriorly on the sacrum, in front on the pubes. On the height of this arch the cervix is let in, invaginating the summit. The circular cul-de-sac thus formed around the vaginal portion of the cervix is held up posteriorly by the peritoneal and sacral fastenings, in front by being
glued to the bladder, laterally by its attachment to the broad ligaments. If we view the vaginal vault in this way, it is evident that to it must be attributed a good deal of instrumentality in supporting the womb and giving to it the so-called normal position. Granting to the peritoneum, to the cellular layer, to the ligaments, to the pelvic fasciae (Hart), and to the blood-vessels and nerves (Ziegenspeck) their part in regulating the position of the uterus, the vagina is such an important support, in my opinion, that I would place it as the first in rank, in this siding with some of the older writers (West, for instance). An experiment on the cadaver, cutting the womb loose from all of its surroundings, will prove that the vaginal vault will be sufficient to hold it up, provided the uterus is of normal weight, and the vagina sound. These conditions are best studied in the healthy virgin, where the vagina is an elastic but resistant structure. It seems to be but physiological that in parous women the tissues slacken, and that the attachments become looser; consequently, also, that the womb settles more towards the vulva.

Proceeding now to the consideration of the important anatomical points within the diaphragmatic plane, the muscular fibres between vagina and rectum, which are derived from the levatores, deserve our attention. They are variously described. Weisse, for instance, shows a considerable muscular body at this place, whilst Savage only admits some slim, circular fibres. On examination of the living subject, we may satisfy ourselves that Savage is correct; but this weak point is strengthened by the terminations of the transverse perineal muscles, nicely shown in Marey's cuts. The fact which in this place is of interest to me is, that there is between vagina and rectum a muscular interposition, which consists of fibres derived from the levatores and the transversi. There is by such a provision a strong resistance established to prevent the rectal contents protruding into the vagina, and this resistance is much strengthened by the levatoric shanks, which are very intimately attached to the vagina laterally. We may say that there is a kind of muscular ring around the vagina protecting it against the encroachments of the rectum. As to what pertains to the sublevatoric portion of the vagina, there is little to say here. This part of the vagina, as well as the rectum, is more or less outside of the pelvis. It is freely movable, having towards the
Prolapse, Rectocele, and Cystocele.

coccyx a soft elastic padding of fat and cellular tissue, and between rectum and vagina the perineal muscles. It is physiologically a multiple provision of closers and openers of the outlets and nothing else. I do not underrate at all the importance and the gravity of their injuries, but these latter are entirely separated from the ones which I will here discuss.

After these short anatomical remarks, the etiology of vaginal prolapse shall be looked into. The vexed question whether uterine or vaginal prolapse is the primary, I think has to be answered that either is possible. If a generally debilitated condition or a full-fledged atrophy should be at the bottom, the whole system of stays and supports, intra- and extra-pelvic, ligaments and vagina, will loosen its hold, and settle. If a pseudo-hypertrophic condition from venous stasis or from subinvolution should make the parts soft and yielding, then there will be also a general folding and falling. In cases where, through any excessive exertion, a woman suddenly acquires a general prolapse, the uterus most likely is pushed out primarily, and will drag the vagina down, tearing it loose from its attachments. Simple enlargement of the womb is hardly to be considered an etiological factor. We know how the largest tumors may rather lift the womb up. In most cases I am of the opinion that the vaginal descent is the primary accident, as well in cases of debilitated condition, atrophy, or subinvolution as in the most frequent injury, the peeling off from its neighboring structures during labor. I wonder that this process, which was described and studied by the most eminent men, is so little credited with the production of prolapse. The obstetrician has every day the opportunity to see the vagina driven before it by the child's head, often enough out of the vulva to lie like the folds of a cap around the child's head. This means nothing but a separation of the vagina from its surroundings behind from the sacrum, Douglas' pouch, the posterior cervical lip, in front, from the anterior cervical lip, from bladder, pubic bone, triangular ligament, etc. The head, when out of the uterus, by its screwing motions, wrenches the vagina loose, and pushes it out, tearing it away from the cervix. Likewise the forceps, if too much twisting be done, may do the same injury (Freund). If such a condition becomes permanent, it must make the uterus fall, which of course is deprived of the important support of the vaginal arch. Only in
rare cases, when the intra-pelvic stays and suspensions be extra-
ordinarily strong, or when adhesions hold the womb high up, 
the vaginal prolapse will not be followed by that of the uterins.

The vaginal detachment may be then general or confined to 
certain parts. 1. It may involve only the posterior supra-
levatoric vagina. Then the posterior vaginal fornix will 
slacken, the arch will fall and be reversed in its convexity; the 
vagina will also perhaps be torn from the posterior cervical 
wall. Will, then, a rectocele form? I think not. We may 
occasionally find a crowding of fecal masses in the posterior 
fornix, but it will rarely be excessive so as to form a permanent 
protrusion. Douglas' pouch, or rather its process, interferes; 
and, besides, I think, as long as the rectum holds to the sacrum 
there can be little of forward crowding of it into the vagina. 
In very rare instances the rectum also becomes detached, and 
then we will have a species of rectocele.

The detachment may be confined to the anterior fornix. 
The vagina will then be torn loose from the anterior cervical 
lip and from the base of the bladder. Especially important 
seems to be the point on the cervix, where the bladder and va-
gina are so firmly connected with it that it takes a good deal 
of force to break it up, as we find it in vaginal removals of the 
uterus. This point, of course, is a point of resistance; it is a 
centre upon which the connection and the mutual support of 
the three organs depend. The peeling off of the anterior va-
ginal wall will mostly stop at the firm transverse ridge, which 
the triangular ligament forms on the vaginal wall, and which 
can be easily mapped out on the inside of the vagina just over 
the connection of bladder and urethra. The consequences now 
of the peeling off of this upper anterior vaginal portion are that 
the anterior fornix will become a loose sack, hanging down, 
detached from the cervix, and that, as a necessity, a cystocele 
will appear; as the bladder has to follow the force of gravity.

The detachment in front, confined to the urethral portion of 
the vaginal wall (say from the transverse ridge to the outlet) will 
the same way lead to urethrocele.

Returning now to the posterior vaginal wall, we may have a 
tearing off of the lower or sub-levatoric portion from its bed. 
This may lead to a partial vaginal prolapse, in case the folding 
and bulging of the detached parts were very excessive, and the 
vulva patulous. Otherwise it will lead to little or no conse-
quences upon higher parts, as the levatores are the resistant lines. They will act like the ridge of the fascia in front, as a firm division between the upper and lower vagina posteriorly.

Detachments of the whole posterior wall. Here the posterior vaginal wall is detached from the levatores and loses this support. Therefore, it will fold and bulge down much more than if only the upper or only the lower portion were peeled off.

Detachment of the whole anterior wall.

Detachment of the whole upper vagina.

Detachment of the whole vagina. A total or nearly total detachment is necessary to produce a so-called third degree of prolapse. It will, perhaps, always be accompanied by uterine prolapse. Whether vagina and womb will pass through and below the vulvar outlet or not, is entirely depending upon the capacity of the closing apparatus, the vulvo-perineal muscles, to resist the weight and pressure of the prolapsed parts. Thus a perineal laceration aggravates considerably the higher situated lesions, whilst without these latter it has no bearing on rectocele or prolapse.

All I want to show is that the lesions may be very manifold; that they consequently will give different pictures; and that they must be well differentiated for practical purposes. The accidents leading to prolapse, in the great majority of cases, will involve the whole vault of the vagina, and extend in front and behind in greater or less degree. The most striking feature will be the slackened vault, and, as can easily be understood, the vaginal portion of the cervix will be shortened whilst the supravaginal one will gain in the same proportion. Descent of the womb will follow, and after a while vagina and womb will drag each other down. In the beginning, a deeper standing womb, nearly always in retroposition, and the shortened cervix, will be all, until gradually a full prolapse may follow, provided other circumstances, of which I will speak further on, be favorable.

The two roughly drawn schematic figures show how the vaginal vault is upholding the womb (Fig. 1), and how, if they become detached from each other (Fig. 2), the womb must be left to the abdominal pressure, which most likely will turn it back into retroflexion or retroversion, though the possibility of an anteflexion is not out of question. Retroflexion will occur if the
womb is pliable, especially, if the junction between the cervix and body is yielding, whilst if this remain strong and resistant, retroversion will be the consequence. It is also of great moment whether the fixed point between cervix, bladder and anterior vaginal wall is preserved or not. As long as this is the case, as long, then, as the anterior vaginal wall and the bladder are not detached from the cervix, this latter is held forward and secured in its place. If under such circumstances, the posterior vaginal fornix has fallen, the abdominal pressure will turn the uterine body around the line of cervical junction, deep down in the sacral cavity, whilst the cervix will rise up, anteriorly.

Reviewing the causes of vaginal prolapse, and repeating that

I firmly believe the peeling-off process in childbed to be the most frequent of all, I must add that in cases outside of parturition, if once the womb has descended to some extent, the vagina will be dragged down and will be peeled off, finally leading to the same condition as in the first instance. This process will mostly be confined to the posterior wall, because the anterior may fall in conjunction with the bladder without detachment. The mechanism in front is more yielding, whilst posteriorly the attachment to the stiff sacral fascia admits no giving way, except by a more or less thorough tearing off.

Up to this there is no word spoken about rectocele, and it is my firm conviction that in order to produce such an abnormality, it takes an additional factor, if we understand a rectocele to be a permanent pouching of the rectum into the vaginal

![Image](image.png)

**Fig. 1.**

**Fig. 2.**
Prolapse, Rectocele, and Cystocele.

It must be remembered that the intrusions of the rectum through a split perineum and a split vagina. This never will amount to much; it may be an excessively annoying thing, but it does not appear as the formidable sac which we usually call a rectocele. The lesion causing this latter is a break of the muscular tissue between rectum and vagina, which fibres, according to the anatomical remarks above, are branches of the levatores muscles and the termination of the transverse muscles as shown plainly in Marcy’s cuts. As long as this firm partition prevents the rectal contents to permanently push forward into the vagina, no rectocele is possible. I recently saw a splendid illustration of this mechanism. I examined a woman who had a pear-shaped sac hanging out of the vagina, and on examination it turned out to be a rectocele, with a slender neck passing through a hole with firm borders, much like an inguinal ring, and just admitting one finger. The muscular fibres, through which an opening was broken, could be felt. I think, also, that in apophasic women rectocele is not found at all; this, at least, is my own experience. From such considerations the conclusion is justified that prolapse of the womb, or of the vagina, or of both conjointly, may exist without rectocele. Both, though, prolapse and rectocele, will be frequently combined, because the frequent injuries of the levatores foster the first, and cause the latter. Besides, rectocele will necessarily push the lower part of the vagina out and down, and this again will drag on the higher parts, which, when weakened and loosened, are liable to give way.

I will not here further investigate the different lesions of the so-called perineal muscles and the pelvic diaphragm, nor discuss their mutual relations; but it is necessary to understand that perineal rents, though they have nothing to do directly with prolapse or rectocele, still may aggravate the trouble. It is plain that an open vulva will allow a once descended vagina or womb to pass out of the outlet much easier than if in its normal state. Besides, in many instances, the perineal rent will be complicated with a rupture of the levatores and transverse muscles. Whilst it is possible that the latter be torn without the least injury to the vaginal wall or to the perineal muscles proper, yet deep perineal lacerations are in reality mostly combined injuries of the perineum and of the pelvic diaphragm. It is therefore important to examine perineal lacerations not only in the direc-
tion of the anus, but also upwards, into the levatoric plane, and also to repair the upper end with much more care than is usually done.

**Treatment.**

For the sake of perspicuity, I will begin with the treatment of rectocele. The bulging out of the rectum will, of course, have caused a more or less sacculated condition of the vagina, but if no further prolapse of this latter has happened, due to an abnormal condition above the levatoric plane, we need not concern ourselves much about it, because the proper repair of the rectocele will at the same time restore the vagina. It will matter little whether the rectocele is complicated with perineal rupture or not, because the surgical procedure will have to include the repair of the perineum. I abstain from enumerating the medical or mechanical attempts at cure, for in my opinion they are useless. Now, for our surgical action, it seems plain that whatever we undertake must be directed towards the reunion of the broken muscles between rectum and vagina, whether they belong to the levatores or to the transverse muscles. To reach them, evidently, we must get between rectum and vagina. For this purpose a vaginal exsection may be made, or the vagina may be lifted up temporarily (flap operation). Whatever allows us to stitch together the ruptured muscles is a reasonable attempt. The removal of a triangular, or butterfly shaped piece, without a thorough exsection of the wall to such depth as to get at the end of the muscles and to bring them together, cannot do any permanent good. In my opinion, all mere denudations are perfectly useless. Whatever fine devices may be carved out of the yielding vagina, it will always resume the shape which the neighboring structures dictate to it.

The muscular resistance against the fecal intrusion will be greatly strengthened if, in addition to the repair of the strata between vagina and rectum, the levatoric shanks, where they insert themselves laterally in the vagina, are united, say to the extent of a half to one inch. This is easy, provided the vagina is sufficiently lifted up sideways, because these muscles are then fully exposed. I do not doubt that in ordinary colporrhaphies, where they have given permanent relief to rectocele and prolapse, the paring and suturing have accidentally and
unwittingly included all the above-named muscular bodies; whilst all others have failed.

As often multiple rents of the vagina and of the perineal muscles will have to be attended to at the same time, the form of the exsections will have to be modified in accord with such additional objects. I think that Hegar's triangular, or the butterfly exsection, one or the other, will under all circumstances suffice. But if the vagina has to be attacked higher up, above the levatoric plane, then such operations must be extended in a way I will speak of further on.

The second class of devices are the so-called flap operations. The difference is simply that here nothing of the vagina is removed. Otherwise the same principles must govern them. Whether tissue should be sacrificed or not—whether, in other words, exsection or flap operation should be practised—is a question to be decided in every case individually. If there is great redundancy, much subinvolution, etc., it may be prudent to resect a portion for so-called revulsive effect; but experience teaches that this is not so often required as may appear. On the other hand, it should be a surgical rule not to cut away what is not diseased; and also it is much better to have too wide a vagina than too narrow a one. Adding, then, that flap operations as a rule are easier to perform, and that they are less bloody, it is no wonder that they are coming more and more into use. There are old devices (Dieffenbach's, Langenbeck's, Pallen's, etc.), but best known at present are those of Tait. One of the latest is Fritsch's, which, as it has not yet been published in any American journal, may be described here. It seems to be the simplest of all. According to the Centralblatt für Gynäkologie, 1888, No. 49, it is as follows: In front of the anus a crescentic incision seven centimetres long is made, parallel to the posterior commissure. From this incision the operator works upwards with scissors to the extent of six or seven centimetres between rectum and vagina, the rectum guarded by the finger. After the vagina is thus lifted up, the tissues have to be brought together in the depth in a sagittal line, by buried sutures, of course not including the vagina itself. After this the perineal wound, which is a transverse oval, has to be so drawn together and so united as to give a line of suture in the raphe of the perineum.

(Frank, of Cologne, after suturing the bottom of the wound,
doubles the vagina upon itself by putting in a longitudinal row of sutures, turning the raw surface on itself. It is, I suppose, done for the purpose of forming a kind of plug or tampon.

All the flap operations are best performed by insinuating the knife or scissors midway between the posterior commissure and the anus, sweeping then transversely around the vagina, and extending upwards to the desired height. They all were originally devised for perineal and anal ruptures, but, if carried up into and above the levatoric plane, they at the same time must fulfill the indications necessary for success in treating rectocele and prolapse of the inferior part of the posterior vaginal wall.

Surgical Treatment of Descent and Prolapse of the Supra-
Levatoric Vagina.

I leave out such lighter degrees of slackening of the vaginal vault as may require only a general or topical treatment, and which, leading as a rule to uterine malpositions, are mostly treated in conjunction with such. Thus there are left for discussion the detachment, or at least the loosening, of the vaginal vault extending (1) into the anterior vaginal wall; (2) into the posterior vaginal wall down to the insertion of the levatores; (3) into a general detachment of the whole supra-levatoric vagina, which will be the most common condition. And I may repeat here that, even in cases where there was no primary peeling off by the child’s head in birth, nevertheless necessarily, when the womb in further progress drags the vagina down, it must detach this latter from the contiguous tissues, or at least the intervening cellular layer must become extremely distended and thinned, which will practically amount to the same lesion. This point is of great importance, because it constitutes the whole philosophy of repair.

If, then, cases of atrophy which will defy any surgical interference be excluded, our aim must be to re-attach the vagina to the underlying structures, or at least to strengthen the cellular tissue, so as to enable it to hold the vagina well in contact with them. It will be proper here to say a few words in regard to the office of this intervening cellular tissue. It is not only so much filling material: it is more than this. Considering that it is an intrinsic part of the lymphatic system, and further that it pads and protects the blood-vessels, which bend from
here into the vagina, then it is evident that any abnormal condition of it, any thinning, shrinking, bending, folding, or whatever it may be, must greatly interfere with the nutrition of the vagina also. I do not see how any restitution of this latter is possible, as long as it is hanging like a loosened wall-paper in transverse folds on its natural surroundings; but I can understand that a normal nutrition may be resumed as soon as it is smoothed out again, and as soon as the cellular tissue is relieved of its distorted condition. This, in my opinion, is the whole secret of success. And then we may understand the success of Thure Brandt’s method, of which, as it has been found adapted to every degree of prolapse, I may say a few words. The reader knows that it consists of methodical elevation of the womb to an over-normal height, and of a forcible separation of the knees. To this latter manoeuvre Von Preuschen attributes a particular strengthening effect upon the levatores by reflex action. In my opinion, though, the levatores have nothing to do with the supra-levatoric portion of the vagina, and they could therefore only be considered of importance in further progressed prolapse. But, fortunately for my view, I find in the Centralblatt für Gynäkologie, January, 1889, an article by Sielski, who shows conclusively that the knee manoeuvre is unnecessary, and that the simple forcible raising of the womb, so as to bring such parts in contact as originally belonged together, is all that is necessary for the success of the method. The author compares the effect to that of a reduction in dislocation. I think the adjustment of the interlining tissue, the restoration of normal circulation, the relief of the parts from their folded condition, is a good enough explanation of the way this method does good. Sielski uses a uterine sound with a cup at the proper distance from the tip. The sound is inserted into the uterine cavity until the cervix rests on the cup, and the uterus is raised as high up as possible. This has to be done daily. He has cured every case within two to four weeks. Perhaps a pessary, holding up the womb after each manipulation, will be of service. It seems but sensible to suppose that the occasional cures obtained by pessaries are due to a similar effect. With a full understanding of the underlying principles, the selection of the instrument will be greatly aided. It must not be so large as to put the fornices on an undue stretch and thereby separate them from the neighboring structures; and
again it must not be too small, so as to fail to sufficiently keep the parts together.

Another means of re-attaching the loosened or peeled-off vagina would be to stitch it back to the underlying tissues. Posteriorly the difficulty would be to avoid injuries to the peritoneum (Douglas' pouch) and to the rectum. This latter could be guarded by the operator's finger, and could be avoided by going far enough to the side. The peritoneum, though, which is not constant in its position, and whose process between the rectum and vagina is of varying length and width, is more exposed. Fortunately, a casual piercing of it will be of no consequence, provided all be done aseptically. To

my knowledge no one but Byford has performed such an operation with success. He stitches the vagina to the sacral fascia bilaterally high up at the level of the cervico-vaginal junction. I think that if the fixation of the vaginal vault could be extended to the cervix, it would be a great gain. To make myself well understood, I must repeat that the detachment of the vaginal wall from the cervix, as it happens often in childbirth, makes the intra-vaginal portion of the cervix appear to the touch much diminished (Fig. 3). But, if we drag the cervix down, we will be surprised by the sudden elongation of it (Fig. 4). This, though, is only an artificial product. The loose vagina adapts and applies itself to the cervix as long as the latter is held in that position.
My advice would, therefore, be to tack the vaginal wall to the cervix by one or more stitches, whilst this latter is held in a prolapsed condition. This would constitute an addition to Byford's stitches.

In this simple way, the whole vaginal vault would be once more suspended in its right level across the pelvis, and would be enabled to resume its supporting function to the womb. The steps of the operation, to which I would venture to predict a good future on account of the ease and efficacy, would then be the following: Patient lying on her back, Sims' speculum inserted, the cervix is dragged forward by tenaculum, the posterior vaginal fornix is lifted high up by a wide depressor, or any similar instrument, and two transverse sutures one-half inch long are then inserted by a curved needle on a long holder, on each side, about two to two and a half inches away from the middle line, so as to take in the vagina and the sacral fascia. The sutures must be carried deep down, as if they had to strike the bones. After tying them, one stitch is carried through the vaginal wall and the posterior cervical lip at the highest point of a supposed normal fornix. Next, the cervix is dragged backward and the anterior vaginal wall (fornix) is tacked to the anterior cervical lip, as high up as possible, whilst the bladder is lifted up and guarded by a staff. Perhaps the operation could be performed without use of the speculum.

Lately, Schuecking has reported extraordinary success in the cure of retroflexion as well as of uterine prolapse, by what he calls vaginal ligature of the uterus. He carries, by a particular instrument, a strong ligature through the cervical canal, then through the fundus uteri, then through the vesico-uterine fold of the peritoneum, thence through the attachment of bladder and uterus, and finally through the anterior vaginal wall, tying, then, this ligature firmly in the vagina. In this way he claims to fasten the uterine fundus anteriorly to the peritoneum and I suppose also to the vagina, producing an adhesive inflammation between the two surfaces of the peritoneum in the vesico-uterine fold. He has already had followers, who report very favorably. But I do not see how the bladder itself can escape being pierced, and even if this did not amount to much in the author's cases, it must do so occasionally. It
will be very difficult to carry the thread so exactly through the cellular tissue between cervix and bladder as not to do harm. But, in my opinion, all the good acquired by this operation is the re-attachment of the vaginal forni to the cervix, because even if the fundus should become permanently affixed to the vesico-uterine fold, this latter would and must settle, as long as the detachment of cervix from the vaginal forni deprived it of the necessary support. The upper fixation would then only change the retroflexion into a more ante-verted or flexed position, which is certainly not to be underrated; but the check to the descent can be attributed only to the vaginal re-attachment. Schnecking's operation is, no doubt, worthy of earnest consideration, but those who fear the injury of the bladder may take my advice to tack simply the anterior forni to the cervix, from the vaginal side. In this simple way, the fulcrum of the uterine position will be changed so as to improve the flexion, and the descent of the vagina and womb will at the same time be counteracted.

It would certainly be a blessing if these simple methods, Thure Brandt's and one or the other stitching operation, would turn out to be sufficient for a reconstruction of the vagina. But up to the time that such a happy result will be obtained, the more formidable operations with knife and scissors will maintain their right to be considered.

The best known is Hegar's posterior colporrhaphy. He begins his triangular exsection at the junction of cervix and vagina, claiming that the cicatrix, formed right under the cervix, will hold it well up. But evidently this narrow cicatrix, in the middle line, under the best circumstances only gluing the vagina to Douglas' pouch, is not fulfilling the indications we have pointed out. We want a wide transverse fixation of the vagina to the sacral fascia, and we also want a lifting up of the slackened upper vagina, which is not a cylinder but a pouch, a hemispherical sac. The narrowing must be made inside the posterior forni, and the more extended it will be transversely in the line of the natural attachment, the more effective it will be. From this consideration I have in my last cases performed the following operation:

The cervix is drawn up and outwards. A piece of the vagina is then snipped out, directly on the middle of the posterior junction with the loose vagina at A. From this opening, the
pointed blade of a pair of curved scissors is inserted, and on either side carried under the vagina to point B and C, to the extent of at least two and one-half inches, and then the triangles cut out until they meet at E., this whole piece of the vagina being thus resected. The point E will be about at the point called the vaginal promontory, that is, the point of the angle of the levatoric slit. The vagina must be thoroughly resected. Now stitches are inserted, as the cut shows, which will render the line of the sutures nearly transverse and really raise the vaginal wall. The most distant stitches in the transverse line, where no peritoneum is expected, should go deep down so as to embrace the sacral linings. In this way adhesions will be caused, which afterwards can be easily felt.

I must add that Kaltenbach and Reamy perform the upper termination of their posterior colporrhaphies in very much the same way.

In regard now to the descent of the anterior fornix, or (if more of the wall be detached) to cystocele, surgical interference has not been based on sound fundamental principles. Excision of the vaginal wall is practised for revulsive effect, or for increasing the distance from cervix to vulva, or for lessening the pouching. But, from all that was said, the re-attachment, the restoration of normal relation between vagina, bladder and cervix, is what we ought to look for. Perhaps tacking the vagina to the cervix, as described before, will do.
I have no experience in it, but I can promise that the following little operation answers our purpose perfectly well. It is performed thus: The cervix is firmly grasped with a strong vulsellum on the posterior lip, and dragged down to a convenient extent. On the brim of the anterior lip, about a quarter of an inch distant from the os, a crescentic incision is made through the vaginal cover, carried up on each side of the cervix for one or one and one-half inches, according to the amount of slackening. The vaginal flap is then lifted up from the cervix by finger or blunt instruments until it can be pulled well upward towards the roof of the vagina, and enough to undo the pouching; in other words, until the cystocele disappears. If the flap be too long and flabby, a transverse piece may now be resected. Then the re-attachment has to be made. The operator puts his left index finger between the denuded cervix and vaginal flap as high up as possible, in order to lift the bladder out of the way, and, whilst an assistant is pulling the cervix down by the vulsellum, a disinfected silk suture is inserted, tacking the vaginal flap to the cervix in a transverse line. Then the wound is closed. This proceeding simply re-unites the detached vagina to the cervix, and does away with the cystocele.

A combination of the excision of the posterior vaginal wall (colporrhaphia post. alta) and of this anterior colporrhaphy will evidently raise and fasten the whole vaginal vault, and, in my opinion, relieve the supra-levatoric descent of the vagina with or without such of the womb and with or without cystocele.

**General Vaginal Prolapse—Combination with Rectocele.**

It will take but a few words to give my views on the treatment of a general prolapse, involving the whole extent of the...
Prolapse, Rectocele, and Cystocele.

vagina. If Brandt's method be tried, it will require the maneuvre as in a partial prolapse. If stitching is chosen, it will take an additional tacking of the vagina to the levator muscles, which can plainly be felt on the sides of the vagina. But if colporrhaphy is selected, then the posterior high operation (Fig. 5) has to be extended downwards. This will be so much more necessary when the perineum or the pelvic diaphragm be in a lacerated condition, and much more so when rectocele is present. Then all these single lesions can be attended to simultaneously. As a rule, it will be best in all these cases to finish first the upper operation (Fig. 5), then to let this part of the vagina slip back, and then to begin the incision from the perineum for any of the named devices, Tait's, Fritsch's, Marcy's, etc. If it be preferred to remove the vaginal flap, its contours must exactly run into the lines of the high exsection; but I do not see why it should not be left alone, as in the uncomplicated operation for rectocele. In the first instance, the figure of exsection will be about this (Fig. 7), which corresponds with Reamy's device.

In closing this article, for which I do not claim completeness, I repeat that my aim was to formulate broad principles for our action. There are especially two points I have tried to make: First, that rectocele is mainly produced by lesions of the muscular strata between rectum and vagina, derived from the levatores and transverse muscles, and that only their repair can be considered a reasonable attempt at cure. Second, that the

Fig. 7.—AB, vaginal termination of exsection; CD, upper termination: E, cervix.
prolapse of the vagina is mostly due to a loosening or detachment of the vagina from its surroundings, and therefore its reattachment must be the aim of treatment. I have not mentioned electricity as a curative means, because I have no experience with it in connection with the mentioned ailments. Also I have not mentioned Alexander's operation and hysterorrhaphy, because every operator tells us that the suspension of the uterus does not do away with the vaginal prolapse. This unanimous statement seems to me to be the best proof of the correctness of my views in regard to the detachment process; for a little reflection must show that the vagina cannot be lifted up by raising the womb, if the vaginal vault is peeled off from the cervix. The remaining union on a small area around the os will allow a drawing up and elongating of the middle part of the vault, but the lateral and lower parts will rather become more sacculated than before the lifting, because the vagina is not a stiff cylinder, but a pouch, and a slack one too, under such circumstances.

February, 1889.

TWO CASES OF PRIMARY EPITHELIOMA OF THE VULVA AND VAGINA.

BY

PAUL F. MUNDE.

(With two colored plates.)

While a number of cases of primary malignant disease of the external genital organs of the female and of the vagina are on record, they are still sufficiently rare to justify reporting and illustration. This is particularly true of the vagina, of which location Kuester collected only twenty-two cases, to which Olshausen added two. I myself have seen two cases, the one here reported, and one two years ago in a girl of 24, where a freely bleeding and secreting growth of the size of an almond projected from the posterior vaginal pouch. I excised it as deeply as I dared without opening Douglas' pouch, but it soon returned and I again excised it, this time opening the peritoneal cavity. I closed the wound at once with catgut, and the patient, although confined to her bed for some time by
1. EPITHELIOMA OF LABIUM MAJUS - MUNDE.
2. EPITHELIOMA OF VAGINA - MUNDE.
a cellulitis and pelvic abscess, eventually made a good recovery and remained well. The microscope showed the growth to be a true epithelioma.

Epithelioma is more common on the vaginal walls than medullary infiltration. The posterior wall is most frequently affected. Only in the early stage, when complete extirpation is possible, can a cure be expected. Schroeder has dissected off the entire vaginal wall down to the rectum and united the edges of the wound, including the rectal wall, and drained. Out of three cases one died of sepsis; the second recovered, and two and one-half months thereafter there was no recurrence; the third was still too recent when reported to admit of a conclusion as to the ultimate result.

When a radical cure is impossible, the sharp curette, thermocautery, or some styptic, with subsequent dressing with iodoform and tannin powder, is all that can be done to make the patient comfortable.

Carcinoma of the vulva occurs about once in thirty-five to forty cases of cancer of the female sexual organs. Epithelioma is by far the most frequent variety, and remains local a long while, not infecting the inguinal glands until quite late. When it involves only the labia or mons veneris, it can usually be radically removed without difficulty; but when it has spread to the urethra, as in the case here reported, it may be necessary to remove more or less of that canal to reach sound tissue, and contraction of the urethra, or, if the neck of the bladder has been injured, incontinence of urine, may ensue. In the matter of diagnosis, only occasionally is it necessary to differentiate between epithelioma and lupus or esthiomène. The microscope will easily settle the question.

Case I.—Epithelioma of Vulva. Mrs. E., 54 years, no children, consulted me on January 26th, 1889, for an ulceration of the right labium majus, which had developed during the past six months. I diagnosed it an epithelioma and advised immediate extirpation. The inguinal glands were not involved.

On January 30th I excised the whole mass with the knife, finding it necessary to remove all of the urethra outside of the pubic bones. The wound was stitched together with catgut suture and united by first intention, except the lower portion, which closed by granulation. The patient was discharged cured on February 25th, and, so far as I know, remains well.
The microscope showed the disease to be epithelioma without a doubt.

Case II.—Primary Epithelioma of the Vagina. A. V. was admitted to Mt. Sinai Hospital on January 27th. She had been treated for a vaginal discharge for six months. I found a friable, spongy, easily bleeding mass of the size of an orange growing from the posterior wall of the vagina, not involving the cervix, and extending to about one inch from the vaginal orifice. Its character was readily apparent.

On January 30th I removed it with the constricteur wire, scraped the wound smooth, and cauterized it thoroughly with the thermo-cautery. The patient was discharged on February 12th. On April 11th she presented herself at the Polyclinic with a mass as large as and much more offensive than the one removed two months before. She had become cachectic, and nothing could be done for her but to alleviate her discomfort and prolong her life for a time.

SURGICAL TREATMENT OF RETROVERSION OF THE UTERUS WITH ADHESIONS, WITH NEW METHOD OF SHORTENING THE ROUND LIGAMENTS.

BY

W. GILL WYLYE, M.D.

We will exclude all diseases of the uterus complicated by displacement, where the uterus is movable and uninfluenced by adhesion, and also those where the tubes and ovaries are diseased or affected by adhesion to such an extent as to necessitate removal.

Six years ago, before abdominal section put beyond all reasonable doubt that, with comparatively few exceptions, peritoneal adhesions were caused by salpingitis, and that the many cases called and treated as pelvic cellulitis were really nearly always diseased tubes and ovaries surrounded by peritoneal adhesions, there was nothing more misunderstood and more trying to gynecologists than the so-called cases of cellulitis, especially those complicated by retroversion and adhesion.

To-day the chronic cellulitis theory has very few advocates, and they rarely try to argue against the hundreds of demonstrations of the actual pathological conditions seen by abdominal section. But so effectual and convincing have been the
teachings about uterine displacements by what may be termed the "mechanical pathology," led in England by Grailly Hewitt, and in America by T. G. Thomas, that much must yet be done to prevent the use of pessaries, and the vain attempts to break up the adhesions by means of the sound and repositor in such cases. The general belief about these cases is, that the displacement is the disease, and that if we could but put the uterus in the ideal position, and keep it there, the woman would be cured.

Retroversion complicated by adhesions is nearly always due to salpingitis, and we know that in such cases a pessary or the use of the repositor would rarely do any good, and be very liable to do harm by tearing an adhesion and causing hemorrhage, or bursting a distended tube or cystic ovary, and so cause a local, if not a general, peritonitis—"lighting up a fresh attack of cellulitis," so-called.

Abdominal section has shown that, although the great majority of cases of retroversion with adhesion are complicated by salpingitis, there are a certain number of cases where the uterus is held in a retroverted and flexed position by peritoneal adhesions that do not involve, to a serious extent, the tubes and ovaries, and it is this class of cases that we now propose to describe, and recommend a simple and efficient means of treating after the abdomen is opened. Where the adhesions are at all extensive, the only possible means of reaching an exact or a reliable diagnosis is by opening the abdomen. I do not, of course, recommend laparotomy except where other rational means of treatment have failed, and where the subjective symptoms are serious enough to make the patient perfectly willing to submit to such an operation.

For many years past I have maintained that displacements are not in themselves a disease, but they very frequently complicate disease of the uterus. A healthy uterus may be displaced and remain so without giving a bad symptom or without becoming diseased, as we see demonstrated by numerous cases; but a diseased uterus is often badly influenced by a retroflexion, especially where retroflexion is added to the version. An enlarged uterus is usually a diseased uterus, and a retroversion may cause disease in a subinvolted uterus by preventing free drainage. Then one must admit that a displaced and diseased uterus is more difficult to cure on account
of the displacement; and when the displacement is complicated by adhesions, it is still more difficult to cure a chronic endometritis, which renders the uterus hyperesthetic and makes the effect of the displacement or adhesion of very serious consequence.

I have also maintained that adhesions per se are not a disease. They are the means by which nature attempts to repair the effects of disease, or by which she encysts and shuts off disease in a gland or organ from the general circulation. Adhesions are not necessarily hurtful, and only cause pain when attached to some diseased organ, or interfere with the normal function of some organ or secretion of some gland. I have cured a patient of all symptoms caused by a retroverted and flexed uterus fixed by adhesions, by dilating the uterine canal, curing the endometritis, and securing good drainage for the secretions, and by softening and stretching the adhesions sufficiently to allow a certain amount of motion to the uterus, to enable it to enlarge with menstruation, and rise so as to escape downward pressure by the fecal matter in the rectum. And I have cured my patient completely without ever fully replacing the uterus or breaking up the adhesions, and in more than one instance cured such a case so as to enable the woman to become pregnant, and, by treating her during the first four months, prevented the retroverted and adherent uterus from wedging against the sacrum, and delivered her at full term of a child. But in most of these cases the symptoms cannot be cured by this method of treatment, for they are complicated by salpingitis, etc.; and since abdominal section is not so dangerous to life, when the subjective symptoms warrant it I believe laparotomy is justifiable, if by it we can cure the case.

Any one who has opened the abdomen often enough to become familiar with the usual condition of the diseased tubes and ovaries, frequently distended with collections of septic pus, will never resort to the uterine repositor or any other forcible method of breaking up adhesions, unless he opens the abdomen and knows just what he has to deal with.

My method of treating cases of retroversion with adhesions is to keep the patient quiet as long as the symptoms are acute, especially if there is a rise of temperature. As soon as the fever disappears, having ascertained that the uterus is enlarged and very sensitive, I place the patient in the left semiprone
Retroversion of the Uterus with Adhesions. 481

position, and with one or two fingers of the right hand I endeavor to push up the fundus, but do not use much force as a rule; unless the uterus is quite large and sensitive, it can be elevated to some extent. If the adhesions are attached to the fundus, it will be much more fixed than in those cases where the adhesions are in the broad ligaments. The latter is by far the more common form. The fundus or the body of the uterus is kept turned backward by the rolling back and fixation of the broad ligaments by exudations around diseased tubes and ovaries. The fundus will ascend before the finger, but will not fall forward on the bladder, but slip back and downward as the finger is withdrawn. If a pessary is put in and the uterus forced up, tension is made on the adhesions involving the tubes and ovaries, and soon becomes intolerable. Instead of putting in a hard-rubber pessary, I put in a pledget made of borated cotton rolled into a firm oblong shape, about two and one-quarter inches long by one and one-eighth inches in diameter, with a string attached to enable the patient to remove it in twenty-four or forty-eight hours. The pledget is saturated with a solution of boroglyceride one part, alum one part, and fourteen of Price's glycerin. These pledgets cause a free flow of watery fluid, and, unless there is active salpingitis, will reduce the congestion. They are renewed every three days, and, as a rule, will after a few weeks bring on involution, soften out the exudations in the broad ligaments, render the uterus more movable, and enable me to treat the endometritis by dilating, drainage, and, if indicated, curetting, intra-uterine applications of carbolic acid, etc. If this treatment is tolerated, it is kept up until the uterus is healthy, and, if the tubes and ovaries are not diseased, will cure the majority of such cases, and in some enable pregnancy to take place, and, if kept up during the first three or four months of pregnancy, will prevent flexion and abortion. If the pledgets are not tolerated, then we can be pretty certain that the tubes and ovaries are diseased and laparatomy becomes a necessity to effect a cure. In many cases, to reach a diagnosis it is necessary to give ether. When once completely relaxed under ether, we may find that what appeared to be a fixed uterus before ether was given can be readily replaced, and in such cases, if the tubes and ovaries cannot be diagnosticated as diseased, Alexander's operation is indicated. My experience, based upon
the close study of several hundred cases, and now more than
two hundred laparatomies for diseased tubes and ovaries, in the
majority of which there were some marked displacements of the
uterus fixed by adhesions, leads me to the following conclusions:
Given, say, ten cases of retroversion with adhesions which have
been subjected to what I may call the preparatory treatment
with rest, boroglyceride cotton pledges, and etherization to
reach an approximate diagnosis and to enable me to exclude
those cases of endometritis and enlargement with retroversion
simulating fixation by adhesions, it will be found, on opening
the abdomen, that nine out of the ten cases are in reality
cases of salpingitis complicated by retroversion and usually
chronic endometritis; that in the majority the adhesions which
fix the uterus are mainly in the broad ligaments, these liga-
ments being rolled back over the ovaries in such a way as to
displace the fundus backward. The peritoneum covering the
fundus may have adhesions binding the uterus backward, but
as a rule the fundus is comparatively free, the fixation being
chiefly caused by the change in the broad ligament. In about
one out of the ten cases the tubes and ovaries are free, or are
only slightly affected by adhesions, the adhesions not being
sufficient to close the fimbriated extremities of the tubes, and
the ovaries not at all or only slightly fixed by adhesions; while
the fundus of the uterus is fixed by adhesions binding it to the
posterior wall of the pelvis, to the rectum, etc. It is evident
that the exudations in this case were not due to the extension
of the uterine disease from the uterus out through the tube
to the peritoneum, but that the endometritis had been accom-
panied by such a severe metritis as to cause inflammation and
exudation on the peritoneum covering the uterus, and resulted
in adhesions and fixation to the tissues in direct continuity with
the walls of the uterus. Now, I know that by careful treat-
ment, notwithstanding these adhesions, some of these cases can
be cured by local treatment without resorting to either laparat-
omy or forcible means of breaking up the adhesions; but in
many cases all such treatment fails, either from the difficulty of
getting the patients to submit to the treatment or the obstinacy
of the endometritis, and the only way to ever reach a certain
diagnosis after failure of local treatment is to open the ab-
domen. I maintain that laparotomy is in such cases safer than
the old plan of attempting to break up the adhesions, either
Retroversion of the Uterus with Adhesions.

with or without ether, by means of a repositor or by any forcible means applied through the vagina.

1. Because of the impossibility of excluding disease of the tubes and ovaries without opening the abdomen.

2. Because if adhesions really exist, they can be broken up in but few cases by any force applied through the vagina. They may be stretched, or the uterine walls may be stretched so as to simulate complete restoration of the fundus to the normal position; with rare exceptions the uterus is moved together with the tissues to which the adhesions bind it, and the adhesions are stretched, but not really broken up.

3. Admitting that the adhesions are broken up, the uterus cannot be kept in place, or the adhesions with any certainty prevented from reforming and drawing the uterus back to the old position when the artificial support is withdrawn.

I confess that where the local treatment by cotton pledgets, drainage, curettage, etc., is not tolerated, or does not cure a case of retroversion with adhesions, I cannot with certainty diagnose whether the tubes and ovaries are diseased in all cases. And I would say that I would not advise laparatomy merely to break up adhesions, if I could be sure that the tubes and ovaries were not diseased; but after a fair trial of local treatment in a case of retroversion with adhesions, when the subjective symptoms warranted it, I would advise laparatomy; for nine times out of ten we will find that the tubes and ovaries are diseased, and it is the only way in many cases that a diagnosis can be reached, and if done by an expert is no more dangerous than the use of
the uterine repositor, and when the abdomen is once opened we can by direct touch, and sight if necessary, break up the adhesions, replace the uterus, and by a very simple procedure fix it forward and prevent it returning to the position of retroversion.

Five or six years ago, when tying off the broad ligaments in removing diseased tubes and ovaries, in cases of great relaxation or where retroversion was associated with salpingitis, I would take a pair of pressure forceps and pull up the broad ligament, fold it on itself and include it in the ligature with which I tied the tube and ovary off, and thus shorten it sufficiently to hold up the uterus and prevent retroversion afterwards.

Three years ago, in Bellevue Hospital, having opened a case of retroversion with adhesions, and finding the tubes and ovaries not diseased, after breaking up the bands of adhesions, fixing the fundus backward, it occurred to me to shorten the round ligaments within the abdomen by catching up the round ligaments with forceps about midway between the cornu of the uterus and the pubic bone. Pulling it up in the abdominal wound, I scraped the inner side of the round ligament so as to make the peritoneal coat raw. I then passed three silk ligatures around the ligament, passing my needle so as to include most of the ligament and to bring the folded ligament into close apposition, and tied my ligature firmly, but not tight enough to cut or injure the strength of the ligament. In this way I folded each ligament on itself in such a way as to shorten it so as to hold firmly the fundus of the uterus over the bladder near the pubic bone. The ligatures were not passed deep enough to injure either the bladder or the ureters. I then placed an Albert Smith pessary in the vagina to keep the uterus up and closed the abdominal wound.
The case did well, and to-day the uterus is in position without any pessary. I had the chance to repeat this operation in several cases with good results. For the past three years I have described the operation in my clinics at the New York Polyclinic, and last year I wrote a letter describing and illustrating by diagrams this operation, which was published in the Pittsburgh Review for June or July, 1888.

Last fall, in discussing hysterorrhaphy as practised by Sänger, Howard Kelly, and others, before this section, I described this plan of shortening the round ligaments as preferable to any other means of fixing the fundus forward when once the abdomen is opened. About two months ago, one of my former students at the New York Polyclinic heard Dr. Baer, of Philadelphia, describe and advocate a similar operation, and he informed Dr. Baer that he had seen me do the operation at a clinic in Bellevue Hospital. Dr. Baer at once wrote me a letter congratulating me on having preceded him.

It was this that induced me to bring this subject before you. Bode (in the Centralblatt für Gynäkologie, January 19th, 1889) describes a somewhat similar plan of shortening the round ligaments, and I am sure that, in a certain number of cases when the abdomen is opened and the tubes and ovaries are not considered diseased or occluded, it will be adopted as the simplest and most rational way of fixing the uterus forward.

But I am not enough of a believer in the importance of displacements of the uterus to advocate laparotomy merely for the sake of replacing a retroverted uterus.
HYGIENE VERSUS SURGERY IN GYNECOLOGY.¹

BY

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In almost every department of medicine vigorous search is being made for the cause of disease with a view to its extermination; or, if that is not possible, with a view to a more certain method of treatment.

Koch, already in possession of the palms of victory for having ferreted out the bacillus tuberculosis, takes his life in his hand and goes to dangerous fields to win new laurels by verifying to the medical world the cholera bacillus, or the cause of another disease. The search in every direction for germs and germicides is to prevent disease, not simply to repair damages.

But there is one large department of medicine where the causes of disease seem not to claim much attention, but wonderful talent and ingenuity are expended in devising ways and means of repair. This department is gynecology.

One can read book after book, journal after journal, and the papers of all the brilliant specialists at the annual gatherings, and see almost no word of cause and prevention. One does not have to go to Africa or the isles of the sea to find the direct cause of some, and the predisposing cause of many of the diseases in this department. This cause is so near it is overlooked. It is also an insuperable obstacle to successful treatment, prolonging cases, preventing permanent relief, and producing surgical cases that would otherwise never exist.

The cause is the weight of clothing on the hips.

It is sometimes easier to credit a new discovery than to believe that an old custom is not right. But, nevertheless, instead of the many pounds resting on this part of the body, not one ounce can rest there with impunity. Reference is here made only to the ordinary dress, when not hygienically changed, and

¹ Read before the Cincinnati Academy of Medicine, Feb. 4th, 1889.
not at all to tight lacing. That has its place by the side of the Chinese foot and the Flat-head Indian, with this difference, that it exceeds both in its disastrous results.

I have found three valuable papers, published within eighteen months, regarding the unhealthy dress of women; one by a neurologist, however, and two by those more interested in gynecology. Now, while three papers have been published on prevention, there have been hundreds on surgery to repair damages. These three articles are chiefly on the injury done by the corset. While that is of course vast, there are hundreds of women who wear instead a hygienic waist, but the weight of clothing still resting on the hips puts them also, as well as the others, through a process more or less rapid towards invalidism.

The reasons why there should be no weight on the hips, nor pressure on any part of the body from the seventh rib down, anatomy and physiology make very plain. The pliable walls of this part of the body are made up chiefly of muscles. Now, the effect of pressure on muscle is well known. Pressure alone on muscle causes it to dwindle in size; and as its action is interfered with at the same time, it becomes still smaller from disuse. This result is seen in the muscles of a limb that has been bandaged a length of time on account of fracture. The large muscles that envelop this part of the body are always in just this state, for the pressure on them is greater than that of the bandages on the fractured limb.

To get some idea of the loss to the body of this feeble state, one has only to recall what muscles these are and their functions. A good condition of the abdominal muscles is indispensable to perfect health. On the posterior surface are muscles intended to be large and powerful. First the latissimus dorsi, one of the largest in the body, and attached at its upper extremity to the humerus. The fleshy part of this muscle is subjected to the pressure of the closely-fitting waist, so arm power is lost.

The chief muscle of importance in this connection, however, is the erector spine and its prolongations. The main part of this, a large, fleshy mass, fills in the space between the last rib and the crest of the ilium, just the place where the stricture of the clothing is greatest. This muscle is to maintain the spine in its normal position, and also serves to bend the body backwards. The normal position of the spine is erect, with a graceful curve
inward in the lower dorsal region. This muscle is so weakened that in a vast number of women the spine curves just the other way; there is a most ungraceful curve outward. One is now so accustomed to this form that it is almost regarded as natural. This change of curve from concave to convex changes the relative position of organs within. Naturally the pelvis is at such an angle with the spinal column that the organs within it sustain very little weight from those above. In the altered position, all the viscera are in a direct line, and the lowest ones suffer from this increased weight. The weakening of this muscle alone will also explain many a backache.

As to pressure on organs within, one might suppose that a part of the body left entirely free by nature it would not be safe to compress in any way. From the seventh rib to the ilium is the part thus left free. There is no bone but the vertebral column behind and the last five ribs, which are compressible, two being floating, and the other three easily movable by reason of their special cartilaginous attachment.

One sees easily that there should be no pressure on the heart and lungs, but forgets why there should be none on the digestive organs. The two vital reasons, of course, are the following:

These organs vary in size according to the amount of food and the stage of digestion.

The second is their constant slow movement.

This vermicular motion is checked by a very little pressure. Pressure here is the cause of many obscure forms of dyspepsia. For instance, a patient complained of emesis after meals. She was a strong, healthy girl, and no cause could be detected. Various aids to digestion were prescribed with no result. I then induced her to lessen considerably, but not entirely, the pressure over the digestive organs, and the trouble vanished. Now, if all bad effects were as evident and as disagreeable, a reform would be speedy.

One sometimes says, Yes, that all applies to tight lacing, but the weight referred to rests on the hips. Well, what are the hips? The only bony part is the crest of the ilium at the outer edge, and how wide is it? The rest is simply soft parts, made up of the muscles referred to and internal organs beneath. And the shelf on which the weight hangs is greater or less according to the degree in which these parts are pushed inwards out of their natural curve. And the broader the hips, the
wider the soft shelf and the greater the damage. Think of hanging weights on soft parts, and keeping muscles always on the stretch! As the human body is not yet understood, as its recesses are so deep that chemistry and the microscope have not yet penetrated these, is it not strange to interfere with the body regardless of consequences?

The muscles that envelop the body are not the only muscular tissue that suffers. Lacerations of the cervix would not be the order of the day if muscle had its normal tonicity.

This superincumbent weight not only injures the texture, but changes more or less the position of everything beneath it. Gynecologists agree that anteflexion rarely comes suddenly; that it is a progressive disease. Many others are likewise.

I have been told by several authorities that at the beginning of our Civil War there were companies of zouaves that wore some part of the accoutrements attached to a belt around the waist. But so quickly was it disastrous, and so numerous were the men that were disabled with hernia, that they were obliged to discard the belt and suspend this same weight from straps over the shoulders, when there was no further trouble.

Now, it would have been just as sensible to go on devising all kinds of operations for hernia, instead of preventing it, as it is to work on in gynecology without removing this same weight. As long as there are weights above to press everything downwards, so long will there be a necessity for devising operations to shorten ligaments, suture a displaced organ to the abdominal walls, and remove entire organs, otherwise healthy, for pain only. Instead of operating on organs pressed upon, remove the pressure first; then if recourse to an operation is still necessary, there is some foundation for permanent success.

If internal supports are used with this weight above, something must suffer, for some of the tissues are then, so to speak, between the upper and the nether mill-stone.

All this is no theory, but solid fact. Experience corroborates it. Removing this weight is a hidden secret of success, and the reason why I have succeeded a number of times where my predecessors failed. One marked instance is as follows: It is of interest, as the individual and the case were both well known. A young lady was doomed to the operation for the removal of both ovaries for extreme pain. This was the sentence of a surgeon who had performed this operation many times, with
success it was thought. She had been under his care for a number of years, and, failing to give relief, he pronounced this verdict. She and her family were about resigned to endure these scenes every few weeks, until they could be reconciled to the operation. When, several years ago, she first put herself under my care, after a thorough investigation I told her if she would co-operate and re-arrange her clothing hygienically, she could probably be relieved. To this she gladly consented. The result of this, with treatment, was that in one month there was wonderful improvement, and in a few months she was absolutely well. The treatment was very simple, perhaps just what she had received before. The secret was, I simply removed the cause of the whole trouble in removing this superincumbent weight, and the other treatment overcame the injurious effects; and thus one physician accomplished in a few months what another had failed to do in a number of years and would have removed a part of her body as a last resort. There was no change made in the external appearance, except that a very sunny face took the place of a sombre one.

Another similar case is interesting on the other side. The young lady had had several physicians, without relief; had been sent abroad for her health, but returned just the same. Hygienic dressing found with her but little favor. She consented to a little change, and that, during the summer, with the lighter clothing of that season, brought an improvement most gratifying to her. But when winter came she preferred the fifteen-pound cloth dress with extreme pain to a lighter one without it, and she has her choice. Dressing as she does, there is no balm in Gilead for her except anodynes at the time or removal of part of her body.

If there is a tight cord around the neck, one grows red in the face; and to remove the congestion, how useful are salves and lotions, fresh air and trips abroad! Many operations are disappointing where success was expected. Voices like the following are now heard here and there. At a late meeting of the Phila. Co. Med. Society when abdominal surgery was the subject of discussion, Dr. Theophilus Parvin said: "I have seen a woman whose ovaries had been removed on account of pain; the suffering returned as severely as ever, and then the stump of each pedicle was taken away, but not the slightest benefit followed; a year after the last operation she was as bad as be-
fore the first.” "I have myself removed the coccyx for well-marked coccygodinia, and for a time the benefit was marked; and then came just as severe pain in the sacrum as there previously had been in the coccyx.” “Let us honestly and impartially look at both sides of the picture; see the dark as well as the light offered, and not be carried away by contemplating only the latter.” Statements of this kind are bound to be heard more and more until the cause that predisposes to any pelvic trouble is removed.

The number of operations performed is wonderful. One physician alone at Battle Creek, Mich., reports sixty-nine cases of shortening the round ligaments in two years. And though nearly all were regarded as successful, he says in his report: "Alexander's operation is not to be considered as a radical cure, but only as a most efficient aid to other means. It restores the organ to its normal position and gives it, so to speak, a new chance to stay there, if it can."

One may say, What can be done? Well, the facts remain just the same whether anything is done or not, but much can be done. It is not necessary to change the external appearance at all. Physicians must first see the necessity themselves. Then if they will teach this truth everywhere as they have opportunity, and above all impress on each patient the fact that instead of the many pounds not one ounce should rest on this part of the body, pounds and pounds would be laid aside. Women would devise their own ways and means.

It will not do simply to suspend the present weight from the shoulders. It is not in a small bulk as with the zouave company, so it can be lifted easily, but is so voluminous and clinging it presses in spite of suspension. So much weight must not be there to suspend.

Teach every patient that all organs are pressed downward out of place, the circulation is interfered with and a venous stasis results, and that a continued congestion can be the starting point for disease.

Tell them that investigations point towards venous hyperemia as the condition for abnormal growths. A prospect of tumors would have some influence.

'Tis true, in teaching hygiene in this department an obstacle is met in the fact that most women do not see that their dress is an unhealthy one as long as they are not the victims of dis-
case. But health is not simply the absence of disease. They say, "I am not conscious of any weight." That is simply because in all these muscles the muscular sense is lost.

If these same persons dress hygienically for a few months, recover their muscular sense, and then go back to the old weights, they can hardly see how it was ever endured.

If that part of the body was absolutely free, there would be a vast army of women in a normal condition, and not the weary, invalid corps that is adding to its ranks so fast that gynecologists, multiplying as they are everywhere, will not be too numerous, and all the ingenuity spent in devising new operations will not be able to stem the tide.

Surgical cases, unavoidable, will always exist; but the great requisite in this department is hygiene—that is, acting in accordance with the known laws of the body in order to preserve health and prevent disease.

A CASE OF CESAREAN SECTION.

BY

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The following imperfect clinical record of a Cesarean section recently done by me is presented as a contribution to the statistics of this, the most formidable operation in obstetric surgery:

On the 13th of January, 1888, I was requested by Dr. A. E. Sally to see with him a woman to whom he had just been called, reported to have been in labor for two days past in the hands of a midwife. We found the patient a negress of much less than the average intelligence, aged about 35 years, in her first labor at full term, though she had previously had several miscarriages. She was thin, anemic, and badly nourished, and in a state of almost complete exhaustion. Physical examination revealed the existence of spinal and pelvic deformity approximating the scolio-rachitic type (Lusk). There was great forward and right lateral curvature in the lumbar region; the sacrum was flat.
and sunk deep between the ilia, and its articulation with the vertebra was very acute, making the promontory prominent, and thus reducing the conjugate diameter of the inlet to about two and one-half inches. The pelvic cavity was funnel-shaped and contracted throughout, and the pubic angle was almost as sharp as that of the male. The uterus was so pushed out of position by the crooked spine that it lay anteriorly and to the right side to such an extent that the os was lifted high up above the superior strait, and could be reached only with the greatest difficulty. The cervix was rigid and swollen, and the os externum just open enough to admit the tip of the finger. The amniotic sac had ruptured the day before, the fluid was all gone, and the soft parts were hot and dry. The head was presenting, but, being so far up and movable, its position could not be determined. The pains were irregular and feeble, recurring at long intervals, and producing no dilatation.

The woman seemed so thoroughly worn out by loss of sleep and the muscular efforts that she had been forced to make by her attendants, that it was thought best to administer a full opiate, and await the commencement of more perfect uterine action.

January 14th, at 12 M., I met Dr. Sally by appointment. Our patient had slept the best part of the night, but about 1 o'clock in the morning, while squatting over a vessel straining to empty her bladder, a profuse hemorrhage occurred, since which she had had regular but not severe pains. Vaginal examination showed the os fully dilated, the head firmly fixed against the pelvic brim, and the womb firmly contracted upon the body of the child. The bleeding at this time was also very free, indicating partial separation of the placenta. The child was alive and active. As the bowels had not moved in four days, an enema was given, and we then discovered that a syphilitic abscess in the perineum several years before had left a large recto-vaginal fistula, through which gas and feces constantly passed.

The woman was put under chloroform, the urine drawn off, and several unsuccessful attempts made to perform version. Three other physicians were then called in consultation, and more ineffectual efforts at delivery made, during which the cord prolapsed and became compressed, causing the death of the child. The Cesarean section was clearly, then, the only hope for the woman's life, though her surroundings were such as precluded the practice of strict antisepsis, and hence rendered the operation doubly dangerous. At 5 o'clock p.m. the operation was begun.

The surface of the abdomen was thoroughly washed with soap and water, the catheter again used, and the vagina douched with a weak carbolized solution. An incision was then carried from four inches above the umbilicus on the left of the linea alba down to within two inches of the mons veneris. The abdominal wall being very thin, the peritoneum was soon reached; this was
carefully divided upon a grooved director, and the fundus of the uterus and somewhat distended bladder came into view. (Note. — The distended condition of the bladder was of great service in showing its position and relations, and thus preventing its injury, for had it been empty and flattened out against the uterine globe it might have been cut into—an accident which has happened to several experienced operators.) The intestines and omentum were protected by cloths wrung in hot water, and the womb was raised up through the incision and opened by a cut about six inches long, extending directly across the fundus, for owing to the spinal deformity it was impossible to reach it lower down. The placenta lying immediately under the line of incision was deeply wounded, causing profuse hemorrhage. It being, however, partially separated, I readily passed my hand between it and the uterine wall, grasped the left foot, and extracted the child. The secondaries were then rapidly removed. The woman having been under chloroform for such a great length of time, the womb was perfectly relaxed and flaccid, the incision gaped widely, and the blood flowed in a torrent, both from the vagina and abdominal wound. A stream of hot water was thrown by means of a fountain syringe into the uterine cavity, which had the happy effect of exciting contraction and stopping the hemorrhage. The wound in the uterus was closed by six deep silver sutures, and the peritoneum by a continuous silk suture after Sänger's method. The edges of the external incision were brought together by eight silver-wire sutures and a continuous silk suture. A rubber drainage tube was inserted through the vagina into the uterus, and one passing deep down into the pelvis was left in the lower angle of the external wound. Adhesive straps, and a compress and bandage, completed the dressing.

During the operation collapse was repeatedly threatened, but was prevented by frequent punctures of whiskey, ether, and fluid extract of ergot.

The woman was put into a warm bed and surrounded by hot bottles; whiskey and one-fourth grain sulph. morphia was administered hypodermically, and she soon reacted entirely from the shock of the operation.

Our instructions on leaving were that milk and whiskey was to be given every two hours, and five grains of sulphate quinia every three hours, also thirty drops of McMunn's elixir of opium if the patient suffered pain, to be repeated when necessary.

January 14th, 10:30 A.M. Patient spent rather a comfortable night, although she had been altogether neglected by her friends, and the directions for treatment had not been followed. Pulse 100, respiration 18, temperature 98½°, skin moist and natural, no distention of the abdomen, and very little discharge from the vagina or wound. Mind perfectly clear, and complained of no pain except in the arms, due to the punctures of ergot. At 5 p.m. her condition was about the same. Pulse 115 to 120, weak and
intermittent; temperature normal. Nauseated and very restless.
January 15th, 10 A.M. Pulse 130, respiration and skin normal, temperature 98½°; abdomen swollen; dressing soiled with a bloody, purulent discharge; vomiting and retching constantly. Mind wandering. I removed the dressing and washed out the peritoneal cavity, through the drainage tube, with a weak carbolized solution. Gave carbolic acid in chloroform water, to relieve the nausea; ordered the quinia, morphia, and whiskey continued. Owing to other urgent professional business, it was impossible for me to visit this patient in the afternoon.

January 16th, 11 A.M. Patient rapidly sinking. The negroes in the neighborhood, the night before, having assumed the woman's death as certain, set themselves to work to save her soul, to the utter disregard of her bodily comfort and necessities. They organized a prayer-meeting in her room, which was attended by fifteen or twenty persons, who for twelve hours prayed and shouted over her, and during the greater part of this time she sat up in bed crying and praying in a frenzy of religious excitement. The infant, which we thought had long been buried, I found, wrapped in a bundle of rags, in one corner of the room awaiting the mother's death, its putrescent remains adding to the foul smells of the germ-laden atmosphere. The woman died at 4 A.M., January 17th. An autopsy was not allowed.

A CASE OF ANTE-UTERINE HEMATOCELE—LAPARATOMY—RECOVERY.

BY

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The object of reporting this case is the rare occurrence of extravasation of blood in the pouch between the uterus and the bladder, in comparison with the much more frequent occurrence of retro-uterine hematocoele.

Miss A. C. K., æt. 38, proofreader. Family history is very good. The patient was a delicate child. She menstruated for the first time at 16. Menstruation was always attended by a good deal of general malaise, flow lasting from seven to nine days, being quite profuse in quantity. At times there was a tendency to anticipate the regular period, and she suffered a good deal from a
tired, heavy feeling in the lower part of the abdomen. Her general health was tolerably good, and she worked about the house, often beyond her strength. The last three years she has been employed as a proofreader.

In February, 1887, she was frequently obliged to sit in a room where the lower half of her body was continually exposed to a draft of air, and one day during that month she was taken quite suddenly with severe pains in the lower part of the abdomen, so that she was obliged to quit her work and go into an adjoining room, where she vomited, and later she was taken home by a friend. She remained away from work for two weeks, being confined to bed the greater part of that time. She was then under the care of Dr. E. C. Keller, who treated her for congestion and retroversion of the uterus. She remained under the doctor’s care, off and on, all the following year, and in February, 1888, she seemed much better, and the doctor put in a pessary to support the retroverted uterus. She wore it only a few days, as it hurt her very much. The 26th of February, 1888, she felt very miserable, and had a great deal of pain; but, it being Sunday, she went to church nevertheless. While in church the pain kept growing worse, and finally became unbearable, so that she had to leave before service was over, and on coming out she fainted. She recovered, however, sufficiently to walk home, which was but a short distance. Next day she went to the doctor and had the pessary removed, and, notwithstanding the pain still continued, she went to her work. When she returned home in the evening, she grew worse, until during the night the pain became so intense that the doctor was finally sent for at 3 A.M. The pain was relieved by hypodermic injections of morphia. From that time she was ill in bed for five weeks, the first two being almost constantly under the influence of morphia. After that the pain gradually subsided, and she was able to get up in the sixth week. She was not, however, able to stand or walk without a constant dragging feeling and getting very easily tired after trying to walk. She had menstruated twice in these seven weeks, the flow lasting respectively nine and ten days. On April 9th Dr. Keller for the first time discovered a swelling in the region of the bladder, and on April 15th she asked me to see the case in consultation with her. The patient then presented the appearance of general but not very severe anemia. She complained of difficulty in urination, and of inability to stand or walk with any degree of comfort. Her temperature was 101°, pulse 90. In the lower part of the abdomen a prominence was observed, reaching to half-way between the symphysis pubis and umbilicus. It was round in form and cystic to the touch, giving the impression of a moderately well filled bladder. Per vaginam, there was felt the retroverted uterus in posterior cul-de-sac; the anterior was partly filled by the tumor. The case appeared to me rather obscure, the more so as most of the particulars appertaining to
the history of her illness were not at that time fully stated by her. She was prevailed upon to enter the N. E. Hospital for Women and Children, where, after a consultation with Dr. Chadwick, when no definite diagnosis was arrived at, it was decided to make an exploratory operation.

April 23d, the patient having been put under the influence of ether, I made an incision two inches long directly over the tumor, through the abdominal parietes.

A dark-colored cyst appeared in the incision, and, on introducing two fingers of the left hand into the abdominal cavity, I found that the tumor reached upwards to within two inches of the umbilicus, and was adherent to the bladder and intestines. The incision was enlarged one inch, the trocar introduced into the cyst, and 400 C.c. of bloody-looking fluid evacuated. The adhesions of the cyst to the bladder and intestines were numerous, and were separated, some with my fingers, and others, more firm ones, were ligated with fine silk, and divided with scissors. After having freed the cyst-wall sufficiently to allow of its being pulled out through the abdominal incision, I again introduced my hand into the abdominal cavity and found there was no pedicle properly speaking, the tumor resting with its base on the anterior surface of the uterus, at the vaginal junction; the uterus was retroverted and adherent posteriorly. The ovaries were very small, and the Fallopian tubes normal. I introduced a long Peaslee needle, threaded with Chinese silk, through the base of the tumor, which was not the cyst-wall, but consisted of a small, fleshy mass, looking very much like an organized blood-clot. After cutting away the tumor from its attachment, there was quite a profuse and tedious oozing, which it took a long time to arrest. It was finally accomplished by a generous application of Monsel's solution. The abdominal cavity was then washed out with warm water, a small glass drainage tube introduced into the lower angle of the wound, and the abdomen closed with silk-worm gut sutures. The patient made a very good recovery, although convalescence was somewhat retarded by the formation of an abscess in the abdominal walls, and she remained in the hospital seven weeks. The specimen was examined by the pathologist of the hospital, Dr. W. W. Gannett, and his report is as follows: "I have examined the specimen brought to me by you night before last, and while the specimen is an obscure one, yet I am inclined to the idea that it is hematocoele.—W. W. Gannett, April 25th, 1888."

In looking over the literature on the subject, I find that, while reports of pelvic hematocoele are quite numerous, extravasation of blood between the bladder and uterus belongs to the very rare occurrences. Schroeder, in his "Krankheiten der Weiblichen Geschlechtsorgane," says that ante-uterine hematocoele occurs the most frequently when Douglas' pouch is en-
tirely obliterated. If the uterus then lies close to the rectum, the anterior peritoneal fold expands gradually more and more downwards, in consequence of the intra-abdominal pressure; this fold then serves as Douglas' cul-de-sac in every respect; consequently, also, for the formation of hematocele. He (Schroeder) has seen one such case after the rupture of an impregnated Fallopian tube. In very rare instances do ante-uterine hematoceles form if, as in the case of S. Braun (Wiener Med. Wochenschrift, 1872, 22 and 23), "the peritoneal fold which lies in front of the uterus becomes bridged over by inflammatory products. Such cases are very rare; first, because peritonitic adhesions are formed a great deal less frequently in front of the uterus than behind it; secondly, because the ovaries and tubes, which frequently give rise to hemorrhages, are not easily displaced into the excavatio-vesico-uterina." Emmet, in his "Principles of Gyneceology," reports a very interesting case, which he considers unique on account of its locality, anterior to the uterus. The hematocele, in his case, seemed to have developed in the course of a few hours, and the patient succumbed to exhaustion. At the autopsy the lower portion of the peritoneal cavity was found filled with a large clot, which covered the pelvic organs. Removing this clot carefully, it was found that the hemorrhage had commenced in the cellular tissue in front of the right broad ligament. It had lifted the peritoneum throughout from the anterior face of the broad ligament, partially from the side of the bladder, and entirely between the uterus and bladder. After this anterior fossa had become filled with blood and had lifted the peritoneum, rupture took place to the right of, and in a line with, the centre of the broad ligament. The blood then escaped into the peritoneal cavity.

An interesting point in my case is the source of the hemorrhage and the difficulty in the diagnosis. Most authors agree that, leaving out the cases due to the rupture of the Fallopian tubes from tubal pregnancy, the hemorrhage is due either to the rupture of the pelvic viscera, uterus, ovaries, Fallopian tubes, or to reflux of menstrual blood from the uterus; or to rupture of blood-vessels, known as the bulb of the ovary, from the pampiniform plexus and network of vessels under the tubes and between the folds of the broad ligaments; or from about the bottom of Douglas' cul-de-sac, or at some point in
Hematocele—Laparotomy—Recovery.

499

front of the uterus. (Emmet, “Principles and Practice of Gyn.,” p. 238.) According to Virchow (“Die Krankhaften Geschwülste,” 1863, Bk. 1, p. 149), “the bleeding is generally due entirely, or to a great extent, to the extravasation of blood from the newly formed capillary vessels found in the false membranes in the cul-de-sacs—the products of local peritonitis.” This source of the hemorrhage, although disputed by some authorities (Scanzoni, West) as being the main cause, seems to me to have played a prominent rôle in the etiology of my case, namely, that a local peritonitis existed for some time previous, which produced the adherence of the uterus to the rectum and occluded the posterior cul-de-sac; and that the hemorrhage took place partly from the rupture of the varicose blood-vessels in front of the uterus, and partly from the new capillary vessels—the products of a localized peritonitis—and then the blood became encysted. What should have given the impulse to the bleedings, I am unable to tell. “Accumulation of blood sometimes takes place so insidiously that the existence of the tumor created by coagulation takes the practitioner by surprise” (Thomas, “Pepper’s System of Med.”); and Emmet mentions the fact that he detected by accident, in one instance, quite an accumulation of blood going on in the peritoneal cavity without the patient suffering any discomfort. (“Principles of Gyn.,” p. 240.)

The diagnosis was not easy to make, because hematocele rarely occurs in the unmarried, unless as the result of violence. It is most common in women who have given birth to a number of children in rapid succession. The position of the tumor in front of the uterus, instead of in Douglas’ cul-de-sac, where hematocele is commonly found; the exquisitely cystic appearance of it, instead of the more consistent, elastic feeling ordinarily encountered; the comparatively slight anemic appearance of the patient—all these were by no means characteristic symptoms of hematocele. Would a better knowledge of the character of the case have influenced us in treating it differently from what we did? I think not. The patient, who is entirely dependent upon her own efforts for support, was practically unfit to earn her own living while in that condition. A more expectant treatment would have led, under favorable circumstances, to coagulation and absorption of the contents of the cyst. At the best, this process would have taken fully as long
a time for recovery as the operation. Under unfavorable circumstances, the contents of the cyst might have suppurated and given rise to septicemia; or the cyst might have ruptured and its contents escaped into the peritoneal cavity, setting up, probably, a fatal peritonitis. Abdominal section seemed justifiable under the circumstances, and, as the result proved, was entirely satisfactory.

CORRESPONDENCE

A NEW METHOD OF PERFORMING HYSTERECTOMY.

Editor American Journal of Obstetrics, etc.

DEAR SIR:—In reading to-day the report of a case of Dr. Howard A. Kelly, of Philadelphia, in your JOURNAL for this month, illustrating "a new method of doing hystero-myomectomy;" in contemplating the great number of things to be done in carrying out the burdensome detail of its technique, my mind at once rebels, and I long for something simpler; I long for the day when clamps, ligatures, serre-neuds, and dread may be consigned to the lumber-room of the past and we can breathe an atmosphere of simplicity and safety.

All methods, whether they be extra-peritoneal, intra-peritoneal, or inter-parietal, agree in that they take off the organ at or about the internal os. Now, the difference of method consists in the different dispositions made of this cervical stump. On account of the great mortality of one method, another is originated. The Germans treat the pedicle inside, because of the mortality which the English encounter in treating it outside, and the English hold to their method because the Germans have failed to offer something safer. The method proposed by Hacker was a go-between, a combination of the two, but unhappily it combined the disadvantages rather than the advantages of the two more popular methods. I fear the one offered by Dr. Kelly will fail to incur popular favor because of the extreme detail of its technique, and the failure to materially improve upon the method of Hacker, which has never been popularized.

All will agree that the pedicle is the source of danger, it mat-
Correspondence.

It may be that in removing the whole organ the folds of peritoneum, known as the utero-vesical ligaments, are sacrificed to a greater extent, but beyond this I cannot see a further disturbance in the one greater than that in the other. But the dangers from this are not to be compared to those which attend the leaving of the stump of uterine tissue. I would like to emphasize that it is not the breaking up of the adhesions that kills after hysterectomy, but the infection from uterine tissue left.

I believe that there can be no likelihood of what should be taken as success in this operation until the stump can be successfully treated within the abdominal cavity. It should not be deemed success, neither should it satisfy us, to cure a tumor and leave a hernia; neither should we be satisfied with a delayed convalescence. The parts must be restored to their natural position, and the patient must get well promptly without hernia or other bad results, to constitute a success which will satisfy to-day.

In looking over the literature of the subject one is struck with the few deaths which have occurred when the whole organ is removed. Keith's reports show that every case recovered when no cervical tissue was left, and yet no notice is taken of the fact; and my investigation leads me to the conviction that the mortality, wherever this has been done, is always below any other method, and yet no one seems to note the fact.

Outside of clinical results, which, above all things, should influence our verdict, the advantages are:

1st. It takes less time to do the operation.
2d. There is less shock after cutting vaginal than after cutting uterine tissue.
3d. It does not leave a stump which predisposes to hemorrhage or infection.
4th. It does not give a protracted convalescence.
5th. It does not leave a weakened abdominal wall.

For the above reasons, I propose complete removal of the womb as against all other methods of performing hysterectomy. I have put this method to a severe test in the following case:
Molly Henly, a colored woman of the better class, 39 years of age, was on the 21st day of last February referred to me by her physician. She has been married twice. Complete sterility. Her menstrual flow has always been too profuse, and for several years dysmenorrhea has been added to her menstruation and metrorrhagia. Physical examination revealed a hard nodular mass contiguous to the womb, which, upon further examination, was diagnosed fibroid. Discouraged on account of former failures at medical treatment, goaded by the idea of helpless invalidism, and true to the proverbial heroism of her sex under trying circumstances, she consented to take the risk of surgical interference. Although much weakened, we, by March 10th, had improved her for the operation. In the presence of Drs. Witherington, Taylor, West, and Talbert, and two nurses, after the usual preparation and etherization an incision was made from two inches below the umbilicus to near the symphysis pubis, and the tumor turned out. The ovary, tubes, and broad ligaments were in one mass with the fibroid and womb. We passed a curved Peaslee needle, armed with a double ligature, through the vagina from one side to the other, and tied one before and the other behind, thus cutting off all source of hemorrhage from the vaginal stump, which was soon made by tightening an écraseur between our ligatures and the cervix. The vagina was allowed to resume its normal position. A long rubber drainage tube, perforated in the centre and extending from the lower portion of the abdominal incision through Douglas’ cul-de-sac and on out at the vulval opening, was put in and the abdominal incision closed and dressed in the usual way. With the exception, on the third day, of a rise in temperature from obstruction by too acute bending of the tube, and later the inconvenience of some stitch abscesses, she made an uninterrupted recovery.

Of course no one case will be accepted as a legitimate foundation for a method, but some of the difficulties and disadvantages encountered in this operation are given as reasons why this case is a severe test of the method:

1st. The extreme anemia of several years’ standing.

2d. The opium habit of six years’ standing.

3d. The formidable adhesions to the rectum, bladder, and omentum.

4th. The great number of organs removed.

Three days ago upon examination I found the vagina to end in a cul-de-sac, in the centre of which is a small nodule supposed to be the ligatures encysted. She is up, going around, and rapidly gaining flesh and strength.

In conclusion I would beg for a full recognition of these injunctions:
Trans. of the Obstetrical Society of New York. 503

Leave no pedicle of uterine tissue, and there is no necessity to fasten the stump anywhere.
Leave no pedicle of uterine tissue, and you can drop the stump with impunity.
Leave no pedicle of uterine tissue, and you can diminish the mortality of hysterectomy as Sir Spencer Wells did that of ovariotomy, by dropping and leaving the stump inside of the abdomen.
T. J. Crofford, M.D.
Memphis, Tenn., April 11th, 1889.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, January 2d, 1889.
The President, Dr. H. T. Hanks, in the Chair.

CLAMP WITH NEEDLE ATTACHED.

The President presented, in behalf of Dr. Watkins (an invited guest), a clamp for seizing a pedicle—a needle, with a catch-eye being attached to one blade of the clamp in such a way that when the pedicle was seized by the blades it was at once pierced by the needle. The thread, on being placed in the catch-eye, was drawn through by separating the blades. It was a very ingenious instrument, and would, it seemed, prove of value in cases of large pedicles where it was desirable to hold the parts tightly while the needle was being passed.

Dr. Watkins (present by invitation).—The idea of constructing such a needle occurred to me a little more than a year ago, when Dr. Bantock operated in a case at the Woman's Hospital. At that time he advised, in all cases of broad pedicles, clamping very tightly before tying, in order to avoid retraction of the soft parts on cutting the pedicle. With this instrument, one is sure of transfixing the pedicle just where it is clamped. Without it, one may clamp the parts and then transfix below or a little above. In drawing the pin out, this must be done at right angles to the pedicle, otherwise the needle may be made to split the pedicle. The needle here presented is only an imperfect specimen; it should be smaller, shorter, and less pointed to prevent cutting the tissues.

Dr. E. H. Grandin.—The instrument is an ingenious one. I was going to make a criticism upon it, which, however, has been met by the inventor. Owing to the length of the needle, there would seem to be scarcely sufficient space to inclose a large pedicle between the blades of the clamp. Dr. Watkins would meet this objection by making the needle shorter.
Dr. Watkins.—That objection might also be met by putting in a second joint, similar to that in Ellinger's dilator.

Dr. Pryor remarked that it might be difficult to thoroughly cleanse the instrument.

Dr. H. C. Coe also thought that the instrument was ingenious, but that a very serious objection to it was the danger of wounding large veins in the broad ligament. One could hardly place the clamp where these would surely be avoided.

Dr. H. C. Coe then read a paper on

SO-CALLED "VARICOCELE" IN THE FEMALE.

At the third annual meeting of the Alumni Association of the Woman's Hospital Dr. A. P. Dudley read a paper entitled "Varicocele in the Female: What is its Influence upon the Ovary?" In reviewing the discussion of this paper (at which I was not present), I was surprised to find that the writer's ideas apparently met with the entire approval of the assembled gynecologists. In the brief limits assigned to the present communication, I can only give a very condensed statement of my objections to the views advanced and ingeniously supported by Dr. Dudley, whom I regard as a careful clinical observer; but I hope that I shall be able to enlarge upon it in future, when I have more data at my command. I may be allowed to preface my remarks with the caution that clinical observations in general are less trustworthy in support of a pathological theory than anatomical, the former being more influenced by the "personal equation" of the observer. The history of pelvic pathology will bear me out in this statement.

The position taken by Dr. Dudley is briefly as follows: Varicocele in the female is a condition closely analogous to varicocele in the male, giving rise to certain definite subjective symptoms in the former as in the latter. Objectively it is often mistaken for cellulitis or salpingitis, but may be clearly recognized by examination per rectum. Atrophy or cystic degeneration of the ovary, with consequent sterility, are a direct result of this condition. Permanent dilatation of the pampiniform plexus is not remediable by palliative treatment, but requires a radical operation, i.e., ligation and excision of the portion of the broad ligament containing the dilated veins.

In studying this subject we naturally consider its anatomical and clinical aspects.

I. Anatomy.—Richet was the first to describe this condition under the name, "varicocele ovarien," and this term appears in various French and German works on pathological anatomy, though less often than the more correct expressions "varicosities" and "varicose dilatations" of the veins of the broad ligaments. I have not noted the paucity of references to this condition, of which Dr. Dudley speaks; in fact most of the authors, whom I forbear to quote, mention it as rather a common accompaniment
of pelvic affections. In few extended articles on pelvic hematoocele is there wanting a reference to the presence of dilatation of the ovarian and uterine plexuses during menstruation and pregnancy as an element to be taken into consideration in tracing the origin of sudden internal hemorrhage. I think that we are all prepared to subscribe to Graily Hewitt's statement: "It is rational to infer in many cases the existence of a chronic varicose condition of the uterine and ovarian plexus of veins."

We are next led to ask these questions: How shall we distinguish between temporary and permanent dilatation of these veins, and what is the relative frequency of the two conditions? Is so-called varicocele in the female comparable anatomically with varicocele in the male? Is this condition a cause or a result of accompanying disease of the pelvic organs, i.e., has it in itself any special pathological significance?

Dr. Dudley is careful to make a distinction between temporary and permanent dilatation—that in the latter cross-sections of the dilated veins show that their walls have undergone well-marked hypertrophy—but he does not lay sufficient stress upon the inherent power of the pelvic veins to resist the strain of repeated and long-continued congestion. We must not compare the pelvic plexuses with those adjacent to other organs (the spleen, perhaps, excepted), because of the great engorgement to which the former are physiologically subjected. Sexual excitement, menstruation, pregnancy—each of these conditions entails a more or less continuous strain upon the walls of the vessels, which they are able to resist not so much by reason of their inherent tone, as from the continuity of the entire venous system of the pelvis, whereby one plexus acts as a safety valve to another when the latter is suddenly overcharged with blood, just as the force of a rapid river is expended when it pours its waters through a hundred tiny branches into a wide delta. In other words, pelvic congestion is general, and does not affect any single plexus. Doubtless a plexus such as the pampiniform, from its position at the upper portion of the broad ligament, must bear more of the brunt, but it does not bear it alone. I have often been struck with the degree of dilatation which exists in the veins of the broad ligaments in connection with large uterine fibroids, without anatomical evidence of chronic changes in the vessel-walls. That subinvolution and displacement of the uterus are a frequent cause of pelvic congestion cannot be denied, but, so far as my post-mortem observations have shown, I have not found that the vascular dilatation is necessarily permanent. Certainly the passage in Winckel's work, quoted by Dr. Dudley, does not justify the conclusion that he regards true varicocele as a very frequent or important complication of retro-displacement. Phleboliths are indeed sometimes found in the veins of the broad ligaments, but no more frequently than in the vesical and urethral plexuses; and, moreover, my reading and observa-
tion would seem to teach me that these bodies are found more often in the lower rather than in the upper half of the broad ligament (compare Winckel's most striking case), i.e., not in the pampiniform plexus. Now, it is unscientific to infer that the presence of these bodies is proof positive of the presence of varicose enlargement of the veins and obstruction to the circulation. Excluding the so-called marantic thrombi, found in the female as in the male and due to the same cause, I believe that in the majority of cases phleboliths are the direct result of thrombo-phlebitis extending from the uterus—in short, puerperal infection, rather than subinvolution, is the true cause of permanent changes in the vessel-walls. If this is true, it is impossible to institute a close comparison between the formation of phleboliths in a varicocele in the male and their appearance in the veins of the broad ligaments.

"Varicocele," to use a convenient definition by Keyes, "is constituted by a varicose enlargement of the pampiniform plexus and veins of the cord." Granting that the ovarian plexus is the analogue of the pampiniform in the male, in order to have a condition in the female actually corresponding with varicocele, enlargement should be strictly confined to the ovarian plexus; whereas Dr. Dudley thinks that "the term is not misapplied when referring to a dilated and tortuous condition of the veins in the broad ligament;" in other words, he would describe varicocele in the female as a general dilatation of all the plexuses in the broad ligament. It is a fact that when the veins of the ovarian plexus become dilated, those of the uterine and vaginal plexuses share in the dilatation; but can this be called "varicocele," as we understand it in the male? As well say that varicocele in the male includes enlargement of the dorsal vein of the penis and the rectal and vesical plexuses.

Again, the veins in the broad ligaments run generally at right angles to the axis of the body, and are far less subject to the influence of gravity or change of posture than are the spermatic plexuses in the male. On the other hand, as already stated, the veins in the female are subject to frequent periodical and irregular engorgements to which they become accustomed, as it were; far less local congestion in the male leads to abnormal turgescence and dilatation of the corresponding veins. Moreover, any attempt to draw a close comparison between the ovary and testicle, either anatomically or physiologically, is unwise, since the former organ is subject normally to congestion which, in the latter, would be abnormal, which also applies to their efferent veins. The arguments with regard to the course of the left spermatic vein and the proximity of the sigmoid flexure hold good in both sexes, yet the infrequency of so-called varicocele in females, as compared with that in males (ten per cent in the latter, as estimated by Keyes), shows that there is an essential difference in the two cases. This difference, I believe, lies in the greater resisting power of the veins.
of the broad ligaments, and in what I have called the "safety-valve" action of contiguous plexuses.

I think that the pathological significance of dilatation of the veins of the broad ligaments can be dismissed in a few words. As Dr. Dudley admits, and as will be inferred from reading various descriptions of the condition under discussion, it is a common consequence of obstruction to the circulation, either local (from indurations or cicatrices in the broad ligaments) or general (from displacement of the uterus or ovaries), or both. I have already alluded to the changes in and around the veins resulting from phlebitis.

As to the influence of this venous dilatation upon the ovary, we certainly would not expect to find atrophy of the gland as a result. No more striking example of general and excessive dilatation of all the venous plexuses in both broad ligaments can be observed than that seen in connection with uterine fibroids, yet here the condition is almost invariably hyper-nutrition of the ovaries—hypertrophy rather than atrophy. On the other hand, the most typical examples of atrophy are seen in ovaries which are buried in adhesions, and thus have their circulation greatly reduced. I cannot accept the view that the varicose enlargement precedes the degenerative changes in the ovary—that it stands in a direct causal relation to them. Cystic degeneration of the ovary is so very common that its presence in connection with venous dilatation would prove nothing. Since three of Dr. Dudley's four patients had passed the menopause, the atrophy could hardly be regarded as pathological; this opinion is not modified after a perusal of the description of the microscopical appearances presented by one of the ovaries removed. We might pertinently ask: Why were not these cases of senile loss of tone in the dilated vessels, with ordinary post-climacteric atrophy of the ovaries? I am open to conviction of error in this inference, but I regard the fact that in all but one of these test cases the patient had reached the menopause as the strongest argument against his pathological theory.

II. Symptomatology. —"The most prominent symptom," to quote from Dr. Dudley's paper, "is pain of a peculiar dull, aching character, extending up the side to the region of the kidney; . . . also the fact that this pain will disappear after the patient has occupied the prone position for a time, and reappear after taking the erect position. The pain is quite similar in character to that experienced by the male who suffers from varicocele, while several of the general symptoms are analogous in character, such as lassitude, a vague sense of unrest, and mental depression." It is to be remarked that none of the patients operated upon were in the hospital under careful observation for three weeks (!) between the time of the first examination and the operation, too short a period to justify a positive statement regarding the exact origin
of the symptoms in such complicated cases. I confess that I can
find nothing characteristic about these symptoms, which do not
differ from those which we observe in connection with the more
common pelvic disorders. As for any comparison between pelvic
pains in the female and those which accompany varicocele in the
male, a mere reference to the intricate system of nerve-plexuses
in and around the uterus and ovaries and between the folds of the
broad ligaments will be enough to indicate how different are the
conditions in the two cases. I shall not dwell upon this subject,
but shall refer you to a paper which I read before the Neurological
Society in 1887, on "The Significance and Localization of Pelvic
Pain," in which I aimed to show the difficulty of attributing any
special form of pain to a simple localized lesion. As for the
"general symptoms" referred to—how do they differ from those
which may be obtained from questioning nine out of ten gynecol-
ogical patients, especially those who are somewhat advanced in
years? From a mechanical standpoint alone, I do not see how so
much stress can be laid upon the posture of the patient, since, as
I before remarked, the veins of the broad ligaments are less
influenced by gravity than are the spermatic plexuses in the male.

III. Physical Examination.—Dr. Dudley lays especial stress
upon the necessity of examining per rectum, "after the patient
has been allowed to stand for a short time." "Bimanual pressure
of the ligament," he adds, "will then readily reveal the knotted,
angle-worm appearance (feel?) of the vessels." He says nothing
about drawing down the uterus in order to render the upper
portion of the ligament more accessible. Unless this is done, it
must be very difficult to reach the site of the pampiniform plexus
with the examining finger. I am inclined to believe that without
such aid few men have fingers sufficiently long for the purpose,
even if the patient was a most favorable case for examination.
Dr. Dudley says that even such a prominent special pathologist as
Winckel "does not mention having made a diagnosis of it in the
living subject." The probabilities are that the learned and conser-
ervative gynecologist referred to, having made a study of varicosities
in the cadaver, has frequently sought to detect this condition at
the examining-table, but has either failed to satisfy himself that
he found it, or considered it merely as a complication of disease of
the pelvic organs, and therefore not sufficiently important to be
mentioned. Certain it is that Winckel would be the last man to
verify his diagnosis by opening the abdomen, unless there was a
more serious condition present than supposed varicose veins. I
have frequently made careful examinations per rectum, the patient
being thoroughly anesthetized and all the conditions favorable for
ascertaining all that was possible by the bimanual. I cannot recall
a case in which I have felt the "knotted angle-worm" mass which
has been described. In patients who had no displacement of the
uterus or ovaries, no pelvic indurations—in short, nothing to dis-
tract the attention from the broad ligaments—I have readily detected what have been called "the three winglets of the broad ligament," i. e., the Fallopian tube, round and ovarian ligaments, which branch out from the cornu. Moreover, under favorable conditions, the large and tortuous ovarian arteries can be felt pulsating between the two latter cords. These might readily be mistaken for a bunch of veins. In order that the veins may give sufficient resistance to be mapped out through the rectal wall, these must be not only enlarged, but their walls must be greatly thickened. Frequently, in both the living and dead subject, have I grasped the broad ligament between the thumb and finger when the veins were enormously dilated, and felt so little resistance that they gave the sensation of an ill-defined mass rather than a bundle of cords. On the contrary, a diseased vein does give a decided sense of resistance. In this connection, I would refer to a point upon which I laid special stress in my paper on "Minor Pelvic Inflammations," viz., the fact that phlebitis and periphlebitis are a common cause of thickening of the veins near the base of the broad ligaments, and that this condition, as found in the cadaver, frequently represents the indurations usually attributed to "cellulitis" when felt in the living subject. I also mentioned lymphangitis and phleboliths as other conditions which could sometimes be recognized clinically. It did not occur to me that dilatation of an entire venous plexus at the upper portion of the broad ligament could be mistaken for old parametric indurations in the lower half of the same, although I have several times noted that the engorgement persists after death.

Granting, as we must on the authority of such an experienced examiner as Dr. Dudley, that he clearly recognized before operation the peculiar knotted mass which he took to be varicose veins, and these alone, we note in all his cases the omission of an important means of absolutely reconciling the mass felt with the mass seen after opening the abdomen. I allude to the examination of the pelvis, with an assistant's finger in the vagina (or rectum) while that of the operator is within the cavity. I have often practised this in the cadaver, and Dr. Polk at the operating-table, in the course of his most convincing investigations into the nature of so-called cellulitis. Dr. Polk, by the way, makes no mention of varicocele in any one of his series of operations or autopsies. Since the ovaries, tubes, ovarian ligaments (and in one case a portion of the round ligament) were removed with the enlarged veins in Dr. Dudley's cases, there must remain some doubt as to the exact correspondence between the clinical and the anatomical diagnosis. I do not see how there can be much danger of confounding dilated veins with "salpingitis"—understanding by the latter term disease of the tube sufficient to cause marked enlargement. The symptoms attending the latter condition are unquestionably far more severe in character, while the
accompanying peritonitis would effectually conceal any venous enlargement, even if it did not mask the shape of the large resistant tube.

IV. Treatment.—I now pass to a brief consideration of the treatment of permanent dilatation of the veins of the broad ligament. I agree with the writer perfectly in regard to the small, or only temporary, benefit obtained by local treatment directed through the vagina (hot injections, counter-irritation, tamponing or local depletion), for reasons which I have frequently set forth, the principal being the free anastomoses of the venous plexuses, in consequence of which anemia at one point in the pelvis is obtained only through corresponding hyperemia at another point.

Pelvic massage, according to Brandt's method, may possibly offer an efficient substitute for the above-mentioned palliative treatment. That laparotomy is ever justifiable for the relief of this condition alone I cannot allow, for the following reasons:

The operation of ligating or excising the dilated veins alone, as in the corresponding operation in the male, presents exceptional difficulties because of the number and intimate relation of the various delicate structures in the broad ligaments. If the operation is not done thoroughly, all the affected veins will not be removed, and those which remain will become still further dilated, as seen in ordinary cases of extirpation of the tubes and ovaries. On the other hand, by "quilting" the ligaments "close to the pelvic floor," it is difficult to avoid the uterine arteries and ureters. If the ovary and tube are removed with the affected veins, and an attempt is made to include in the stump as much as possible of the broad ligament, the latter may be either torn at its base, or may subsequently slip from the grasp of the ligature, both of which accidents have occurred in the hands of the best operators. I have seen several cases of fatal hemorrhage from this cause in easy, uncomplicated operations.

The fact that the patient is relieved of certain symptoms after removal of the ovary, tube, and varix does not prove that they were due to the presence of the varix alone, as that was not the only important structure excised. A more satisfactory proof would be afforded by the persistence of the symptoms in cases in which the varix was left and the ovary and tube were removed. In short, laparotomy performed on this indication only is a purely empirical measure, as it always is when done for the relief of pelvic pain alone. What the profession needs is not a new indication for laparotomy, but the reduction of the already long list.

There is no precedent for the performance of the operation described by Dr. Dudley in the case of women who had passed the menopause, since it is acknowledged that the ovaries were atrophied; and from the physiological rest enjoyed by the pelvic organs, there is reason to believe that the venous congestion would have become diminished in nature's way. We would hesitate be-
fore operating upon more serious conditions after the menopause; why would not the same rule apply to these cases?

I submit the following deductions in opposition to those set forth by Dr. Dudley:

1. True varicocele in the female, if this term is applied to permanent dilatation of the veins forming the pampiniform plexus, with considerable thickening of their coats, is rare; at least, it is seldom found at the post-mortem table, which is the best test of the absence of chronic changes in the vessels.

2. Varicose enlargement of the veins of the broad ligament cannot be regarded as closely analogous to varicocele in the male, as viewed from the standpoint of etiology, anatomy, or symptomatology. The anatomical conditions in the female are widely different from those in the male.

3. In deciding as to the cause of the venous dilatation, regard should be had not only for the influence of long-continued congestion (from displacements or other causes), but for the changes in the vessel-walls and the surrounding connective tissue, which point to previous phlebitis of uterine origin (puerperal or traumatic).

4. In exceptional cases of varicocele in the male, atrophy of the testis may result from interference with its circulation. It is exceedingly doubtful if atrophy of the ovary can be traced to a similar cause. The obstruction to the circulation can usually be ascribed to surrounding adhesions, and the conditions of the veins is post rather than ante hoc. In other words, the same cause may lead to both the ovarian disease and the dilatation of the veins. Or, if no adhesions are present, cirrhosis of the ovary is more likely to precede, than to follow, venous dilatation.

5. There is no evidence that varicose enlargement of the veins in one or both broad ligaments gives rise to any peculiar symptoms which could not be explained equally well by the presence of accompanying disease of the pelvic organs, especially to localized peritonitis. There can be no just grounds for comparing the symptoms due to varicocele in the male with somewhat similar pains in the female, even when these are associated with venous dilatation, since the anatomical conditions in the latter sex are far more complicated.

6. So-called varicocele ought not to be mistaken for cellulitis, or resulting indurations, since the former should occupy the upper portion of the broad ligament, while the latter is usually found at its base. Well-marked tubal disease should give a different history, and enlargement of the tubes sufficient to call for operative interference ought to be distinguished from a cluster of dilated veins. On the other hand, it must be under exceptional circumstances, and by an examiner possessing in a high degree the tactus eruditus, that such veins are clearly detected at the examining table, nor does the finding of dilated veins after opening the abdo-
men necessarily prove that they were the objects felt within the pelvis before the operation.

7. Varicose enlargement of the veins of the broad ligament does not constitute a sufficient indication for laparotomy, nor is it possible to remove all the affected plexuses without ligating or excising nearly the whole of the broad ligament—a dangerous procedure which has led to most of the fatal cases of secondary hemorrhage. Laparotomy is certainly not justifiable after the patient has passed the menopause, as the quiescent state of the pelvic organs would naturally seem to favor a spontaneous cure.

DR. MALCOLM MCLEAN remarked that on physical examination he had felt what he supposed were enlarged veins or varicocele in the female, and which could hardly have been mistaken for anything else, but he had never felt himself justified in opening the abdomen for their removal.

DR. A. P. DUDLEY.—I regret exceedingly not having heard the commencement of Dr. Coe's paper. What I did hear interested me very much, and from more than one point of view. but principally because the paper, I believe, was a direct outgrowth of one which I read before the Alumni Association of the Woman's Hospital last year, and published in the New York Medical Journal for Aug. 11th and 18th, 1888. Since Dr. Coe has taken marked exceptions to some of the deductions I drew at that time, I feel entirely at liberty to take still more marked exceptions to his paper to-night. With the indulgence of the Society, I will try to give sufficient reasons for still believing that when I wrote that paper I entered the correct way to the truth. Before speaking of the anatomical conditions in varicocele of the female, some clinical facts may be of interest; and first I will present a patient on whom I operated two years ago, whose case was described in my original paper, and I will repeat only sufficient of her history to show the condition she was in before the operation, and the benefit she has derived from it. Mrs. B., 51 years old, mother of four children; never well since birth of last, suffering constantly from pain in the left side. Had passed the menopause two years. Had been in bed almost the entire previous eleven years, and for the last three had left it only to visit the commode at the bedside. Her principal complaint had been pain near the spleen, which would shoot down through the side to the groin. She had been under the care of many physicians without benefit. Careful examination revealed thickening in left broad ligament, which, by rectal touch, was diagnosed as varicocele, and laparatomy for its removal advised.

The most careful attention was given to the diagnosis in this case, and when the abdomen was opened the incision was made long enough to enable me to pass in my hand and forearm, and examine as far as possible all of the abdominal organs, including the liver, the spleen, kidneys, ureters, stomach, transverse colon. I was unable to discover any other pathological condition than that which was apparent before operation, namely, a knotted condition of the veins of the broad ligament.

Here I wish to take exception to a statement made by Dr. Coe, viz., that varicocele should be felt in the upper part of the broad ligament, not in the lower part. In this case and others which I
have examined, the knotted mass of veins was felt quite close to the pelvic floor. The veins were so matted together as to form a tumor, and that is all the term cele means. It was as nearly like the condition observed in the scrotum of the opposite sex as one could possibly find. I removed the mass close down to the pelvic floor by the quilting process as described. The tubes and ovaries were atrophied, having done their work and retired. When operated upon the patient weighed eighty-five pounds; she now weighs one hundred and sixteen pounds, is in good health, and walks over the city in attending to business.

If in her case the symptoms had been due to some other condition than that of the veins of the broad ligament, what could it have been? It was not the uterus, for that was not diseased. It was not adhesion of the tubes and ovaries, for they were free and were not enlarged. Then the location of the pain was not in the pelvis at all; it was along the course of the ureter and near the kidney. It was relieved the instant the veins were tied, and the patient has not had a return of the pain from the day of the operation until the present. The patient who is in the room will corroborate all that I have said regarding her symptoms.

The other three patients on whom I operated have been heard from within the past forty-eight hours. There is further evidence of the value of operating in appropriate cases of this class.

To repeat, I regret not having heard the whole of the paper, for I can hardly account for its title, "So-called Varicocele in the Female." It seems to me no physician will deny that there is such a condition as varicocele in the male. It has been recognized for years. You may call it varix, or what you will, but it consists in a dilated state of the veins of the pampiniform plexus. If it is desired to use a term in a strictly scientific sense, we should call it pampinocele, for the condition certainly consists in dilatation of the veins in the pampiniform plexus. The termination "cele" in the word varicocele is employed to differentiate between a dilated condition of the spermatic veins and a similar condition of veins in other parts of the body to which the term varix is applied. The only difference between varicocele in the male and female is, that in the former it exists without the body, while in the latter it is located within the body.

Quain gives the following definition of varicocele: "A dilated, elongated, and tortuous condition of the veins of the spermatic cord, due either to an increased pressure within the vessels; or to diminished resistance in the walls of the vessels and the surrounding structures, while varix is applied to simple (similar?) conditions in any part of the body."

As to the existence of varicocele in the female, I do not think it possible to doubt it, but whether the term pampinocele would be the more appropriate is another question. I do not only think that this condition may exist, but that it is of much more frequent occurrence than any of us have supposed; that it is much oftener present, indeed, than in the male. The causes which give rise to it are, in my opinion, tenfold what they are in man. Why so? Simply because woman is subject to that many more influences which may produce pelvic congestion than is the male. The causes are remote and exciting. Among the remote causes of a dilated condition of the pampiniform plexus are, constipation, the angular termination of the veins which return the blood from the uterus and broad ligament, especially on the left side; a retro-
verted state of the uterus. As is well known, most women suffer from constipation, and the veins returning the blood from the uterus as they pass behind the sigmoid flexure are thus made liable to pressure. In addition to all this, let there be frequent pregnancies. Observe the contrast between the veins in the broad ligament in this specimen removed from a girl aged eighteen, for hystero-epilepsy, and those known to exist in the pregnant woman, or in varicocele where the veins are as large as one's little finger, and tortuous.

With regard to what other men have seen of this condition, I was aware that Winckel had not diagnosed it on the living subject. Erichsen and Zieghe, however, speak of it, and the latter says it is one of the most frequent causes of hematocele, and he has found phleboliths or venous stones in the broad ligament oftener than in any other part of the body. Sometimes these stones ulcerate through the coats of the vessel and produce an aneurysmal varix.

I have mentioned the analogy between varicocele in the male and female, and stated that the only difference between the two conditions is that one exists without the body and the other within. Now, no one will deny that the best cure of varicocele in the male is ligation of the veins. The best witnesses to that fact are those who have suffered. The same treatment, one would infer, would be applicable to the female.

It was my privilege last fall to witness Dr. Hawley perform Cesarean section at the hospital, on a cancerous subject whose pregnancy had advanced beyond the sixth month. I certainly shall not forget the situation, great length and thickness and tortuosity of the veins of the broad ligament in that case.

So far as the pathological changes in the vessels are concerned, there is one here to-night, Dr. Porter, who is better able to speak than I. It was he who examined the specimens in one of my cases. The veins certainly do become thickened, and at the same time they become weaker. Some authors have taken the ground that the change is inflammatory. But I believe the term chronic inflammation, as applied to the pelvic organs in this condition, should be discarded. Others have held that a fibrous change takes place, replacing the normal tissue. As said before, it is certain that the veins, while becoming thicker, also dilate and weaken. If this were not so, why should we see bleeding veins on the leg in the case of varix? It can only be accounted for by weakening accompanying the thickening process. While thickened, the vein is elongated and thrown into folds. The blood current is uneven through it; it is thinned and weakened. Such in my opinion is also the change which takes place in the veins of the broad ligament during varicocele. The vessels become tortuous, at first there is hypernutrition, then starvation, their tissue substance loses its normal character, deposit of blood pigment takes place, the veins become dilated at the same time that they become thickened.

So far as concerns the symptoms of varicocele in the female, I do not think they differ materially from those in the male. I believe the pain is almost pathognomonic. It is not located in the pelvis, but higher up in the side, and near the kidney. It consists of a dull ache which is difficult to describe, but which is readily recognized by the experienced. What differentiates it chiefly from other pains is the fact that it entirely disappears when the patient
rests half an hour in bed. She obtains a good night's rest, but after she remains on her feet a short time in the morning it returns, and lasts during the erect position. After the condition has continued for some time, the patient is thrown into a nervous state, which is destructive of health and happiness.

Regarding diagnosis, I think it is easy enough when the examiner first causes the rectum to be emptied, and then examines per rectum, while the patient is in the semi-erect position. Repeat the examination after she has lain on the back awhile. Any one with a knowledge of the relations of the broad ligaments can by rectal touch make out the tortuous state of the veins if varicocele exists.

To-day I received a letter from an eminent gynecologist, in which he states that since his attention was called to this condition he has diagnosticated varicocele and operated in two cases, and in a third instance he is able to attribute all the symptoms to a similar state. The latter patient has long since passed the menopause. He believes that the term chronic cellulitis, which has commonly been used in conditions simulating or like this, is a misnomer and should be abandoned.

The differential diagnosis is quite easy. It is simply a question of position of the varicocele. Contrary to Dr. Coe's views, it is located low down on the pelvic floor, and in removing the mass it is necessary to stretch the broad ligaments in order to reach it. Of course, it can readily be distinguished from adherent and prolapsed ovary or enlarged tubo; also from a cellulitis which is situated below the pelvic floor, and from a fibroid of the uterus.

In proposing operation for the relief of varicocele, of course, it is not regarded as a panacea to be applied in all cases. I have simply given my experience with it in four instances. The danger of the operation is reduced to a minimum when performed in the manner I have proposed, by the quilting process. The varicocele can be removed thoroughly without danger to the ureter and without liability to secondary hemorrhage, provided the operator does not include the whole of the broad ligament in one ligature. As stated, I quilted the ligament, and placed the stitches quite close together, and touched the raw surface of perhaps two and a half inches along the upper edge of the broad ligament thoroughly with carbolic acid. No untoward result followed in any of the cases. One absent patient weighed before the operation one hundred and forty pounds, and now she weighs one hundred and eighty-five. She had required the support of friends a year and a half before the operation whenever she wished to cross the room; now she walks where she will, and comes to the city from the country frequently.

With regard to medical treatment, I may express the belief that more than one-half the cases which Dr. Emmet diagnosticated as chronic cellulitis, and treated by hot injections, iodine, and the tampon, were cases of passive pelvic congestion. You may call it an active congestion if you please, but it has never been accompanied by fever. That is, it has not been an inflammation at all. It is an enlarged and congested condition of the blood-vessels of the pelvis, and when Dr. Emmet has been able to give such patients great relief by iodine, tampon, hot-water injections, and rest in bed, it is because he has allowed the vessels to regain their tone. The circulation being relieved, the vessels have an opportunity to recontract. But when the case has gone further, and
pathological changes have taken place, the muscular coat of the
vein being replaced by a low grade of connective tissue, such
treatment can only temporarily relieve. I have seen many such
patients return for treatment. There is no other cure in that
condition than ligation of the veins, and the operation is not only
justifiable, but the physician who neglects it fails to perform his
duty.

In answer to my question, Dr. Coe says he has never made the
diagnosis in the living subject and operated for its relief. Such a
confession reduces his paper to one of theory simply, and not of
practice.

Dr. Coe.—I regret that I am obliged to leave, and shall be un-
able to hear and to close the discussion. I would only say that a
great deal of what Dr. Dudley has stated at such length I have
already granted in my paper. He, however, did not arrive in
time to hear it. In the first place, it is not my intention to split
hairs with regard to minor points of difference. I simply wish to
show that his arguments are based on wrong premises. Dr.
Dudley has laid stress on the statement that the only difference
between varicocele in the male and in the female is, that in the
one case it is without the body and in the other it is within the
body. But that makes all the difference in the world with regard
to anatomy, symptoms, pathology, and treatment. I am satisfied
to leave this admission to the Society without further additions.
I must confess that I have not been convinced by Dr. Dudley’s
remarks, nor do I think it necessary to retract anything that I
have said.

Dr. William H. Porter (present by invitation).—I was very
much pleased on being invited to this meeting to-night, although
this department of medicine is one a little out of my line. Yet
pathology, no matter where it leads, is of interest to me.

I have been much interested in Dr. Coe’s paper. Speaking first
of the pathology, I think I should take exception to the statement
that there can be a difference in varix according to its location.
Whether it exist in a vein in the leg, in the spermatic cord, or the
pampiniform plexus, it is caused, as Dr. Dudley has already
stated, by back pressure of blood in the vein or by diminished ex-
ternal resistance. The result is that the veins become overcharged
with blood, and we are taught by physiology that wherever there
is overcharge of the venous circulation there results supernutri-
tion, and primarilv from that there develops new connective
tissue. This latter was at one time spoken of as a product of
chronic inflammation without the production of serum, fibrin,
and pus, but with the production of the connective tissue. Later
it has been the custom to speak of it as a productive inflammation,
or that variety of abnormal physiological change which results in
the production of new connective tissue. In the female there are
many causes for the damming of blood in the veins of the pelvis,
so that it would seem the simplest of all things to find varix, or
a state of super- or mal-nutrition leading to connective-tissue
changes in the blood-vessels. With the constant pressure upon
the walls of the veins, there is solid edema and supernutrition, the
muscular and elastic tissue become displaced, undergo a degenera-
tive change, and connective tissue is substituted. As a result the
veins become dilated, tortuous and elongated, and present sinuses
along their course.

Such is essentially the condition which I have found in those
cases examined. The veins have been thickened by connective tissue, and the muscular fibres and elastic tissue have been in a state of atrophy; the vessels have been elongated, dilated, and tortuous. At the same time, there has been a great increase of connective tissue outside the veins, or in the perivascular spaces. In fact, the broad ligament has looked very much as does the dura mater in chronic meningitis from syphilitic changes in the blood-vessels, or from chronic alcoholism. In the specimens which Dr. Dudley gave me for examination I found a very decided varicose condition of the veins of the broad ligament, which in the living subject must doubtless have made a tumor.

You are all probably aware that it is with a great deal of difficulty one can study the changes in the capillaries and veins of the connective tissue after death; for, as a rule, the blood is then driven out of the veins, the vessels collapse, and if you have a displaced muscular and vascular tissue it is very difficult to distinguish between connective tissue and the walls of the veins. In the first case shown me by Dr. Dudley, there was a great deal of blood and blood pigment within the veins, which made their examination easy.

Only last night I was examining some specimens, less marked, however, than in the case of Dr. Dudley's, and was able by various stains to trace the very much thickened capillaries and veins in the broad ligaments, and I found the ligaments very much thickened with connective tissue. I am led to believe with Dr. Dudley that a great many of the so-called acute and chronic inflammations of the broad ligaments, and cellular tissue around them, are the result of acute or chronic dilatation of the blood-vessels and a progressive development of connective tissue compressing the nerves and thus giving rise to pain, tenderness, and symptoms simulating an inflammatory process, but yet not an inflammation as ordinarily understood. The patient's symptoms are due not so much to inflammatory conditions in the pelvis, or displacements of the uterine or of the ovaries, but to the great length of the ovarian veins, which leave the pelvis at a right angle, then they make another right angle when they enter the renal veins, which on the left side enter the vena cava also at a right angle, making, in all, three right angular turns. A further cause of varicocele in the female is tight lacing, by which the abdominal organs are compressed into the pelvis, such pressure being an additional obstruction to the venous circulation.

Dr. J. R. Nilson.—I did not hear Dr. Coe's paper, but the subject is one to which I have devoted a good deal of thought, for I have found in a number of laparatomies much-distended veins. In some cases I have removed them by a special procedure, while in others I have allowed them to remain. In those in which I did not apply any special remedy, and did not remove them with the diseased organs, I found afterwards that they disappeared, and the patient's symptoms also disappeared. It would seem that where the cause of the dilated condition of the veins can be removed and the veins be given an opportunity to empty themselves, the symptoms will disappear. I was struck by the statement in Dr. Dudley's recent paper to the effect that, although the operation is not to be recommended in all cases, yet in a certain number of cases it is justifiable. It is to be noted, however, that in Dr. Dudley's cases he also removed the tubes and ovaries. I think that in the ovaries resides the most likely cause for such
increase of blood in the pelvic vessels. It is certainly in the ovaries that the influence resides which causes the usual increase of blood in the pelvis during the menstrual period.

Dr. Dudley remarked that in all of his cases he removed the ovaries and tubes, but the patients had all passed the menopause.

Dr. Nilson.—I noticed that in all of his cases the menopause came on late, and it would appear that pelvic congestion had continued for some time, as if the ovaries had not ceased to exert their influence on the system. After removal of the tubes and ovaries the symptoms disappeared. Olshausen, in his last work, calls attention to this point, and thinks that where varicocele exists, castration is justified, inasmuch as it removes the symptoms. To formulate my opinion in a few words, I think that the distention of the veins will disappear, together with the symptoms, upon the removal of what I take to be the cause, namely, the diseased uterine appendages, so called; more especially since this procedure involves the ligation of the ovarian arteries.

Dr. Buckmaster.—It seems to me that I have heard Dr. Emmet speak very frequently of the condition described by Dr. Dudley. He ascribed it to the results of chronic inflammation, but did not draw the fine distinctions in regard to the definite inflammation which the pathologists are accustomed to do at present. It was merely a question of treatment with him. If the condition gives rise to excessive pain that cannot be relieved, one would certainly be justified in operating for its cure. But an operation must rarely be called for; indeed, it is rare that we operate for varicocele in the male. We see many cases which can be relieved without cutting out the veins. And even in the male the operation is not very simple. I have known several cases in which it was followed by disastrous results in the hands of very good surgeons. Certainly, we ought to be very sure, as in other cases of laparatomy, that our diagnosis is correct. Dr. Coe stated that we did not need new indications for the operation, but I take it that that is precisely what we do need, for the great trouble of to-day is to know what indications call for operative treatment, and what others forbid it. We should be careful in increasing the range of laparatomy.

Dr. Pryor.—A good part of Dr. Dudley's reply to Dr. Coe's paper is taken up with a parallel between varicocele in the male and varicocele in the female. I do not think the two conditions are very similar. I have done Dr. Keyes' operation for varicocele in the male a number of times, and can say that however easy it may be the diagnosis of the condition in the female, in the male, at least, it is often very difficult to tell an enlarged and hypertrophied state of the veins from the cord: and if the isolation of the veins from the cord in the male be difficult, how acute that touch which in the female can map out the veins from the round ligament and tube! I have never seen a case in which the testicle was atrophied. It has always been characterized by hypertrophy. But in Dr. Dudley's cases of varicocele in the female, the ovaries were atrophied—I would say unusually atrophied. I ascribe that condition to the menopause. I should think the diagnosis would be extremely difficult. I agree with Dr. Coe that the difference between varicocele in the male and in the female—namely, that in the one it is outside and in the other inside the body—is an
important one. In the two situations the surroundings are quite different. If an enlarged condition of the veins, accompanied by prolapsus of the ovaries, does occur, it can be greatly diminished by holding those organs up, and thereby causing a decreased size of the vessels, as may be done in the male by supporting the scrotum and testicle.

Dr. A. M. Jacobus.—It occurred to me that some benefit might be derived from the bromides and ergot in mild cases of varicocele. I would ask Dr. Dudley whether they were tried in his cases.

Dr. Dudley.—The patient present this evening had received all manner of treatment, and must have taken a good deal of bromides for her nervousness.

Dr. Egbert H. Grandin.—We cannot doubt the results in Dr. Dudley’s cases. But it seems to me a rather curious fact, in view of the many causes of pelvic congestion in the female, that so few women who have passed the menopause complain of that symptom which Dr. Dudley says is characteristic of varicocele. I should like to ask the doctor what may be the explanation of the pain being localized in the course of the ureter and in the region of the kidney.

Dr. Dudley.—I think Dr. Porter’s remarks throw light on this question; that the pain is due to blood-pressure, and is referred to the region of the kidney where the nerve supply comes from.

Dr. Grandin.—If that explanation be valid, why is pain not limited to the same region in general pelvic congestion—such, for instance, as occurs during pregnancy, etc.? It will be remembered that Dr. Dudley has laid stress on this symptom as pathognomonic of varicocele. Why do we not meet with this pain in women who, from the number of children which they have borne in quick succession, have been subjected to the greatest possible pelvic congestion almost uninterruptedly for years?

Dr. Dudley.—At the same time I said that the pain disappeared at night, when the patient assumed the recumbent position, and reappeared while erect.

Dr. Grandin.—Yet the pain is due to congestion?

Dr. Dudley.—Yes, due to congestion, present when the patient stands, and relieved when she lies down.

Dr. Grandin.—I would still ask, why should there not be a similar pain during pregnancy? The pelvic congestion is then only a degree less when the patient is recumbent. In my experience it is exceptional in pregnant women to have pain referred to the ureter and kidney. What I am in search of is the diagnostic symptom or symptoms of this so-called varicocele, and the only symptom Dr. Dudley lays stress upon is this pain, limited to the region of the kidney and ureter.

Dr. Dudley.—Is it exceptional during pregnancy to have pain referred to the lumbar region and back? It is an aching condition in that neighborhood which led me to look for varicocele.

Dr. Grandin.—Am I to infer that, in the event of finding such a pain, Dr. Dudley would diagnosticate varicocele, and proceed to open the abdomen?

Dr. Dudley.—Not at all, unless the suspicion of varicocele were confirmed by rectal examination of the broad ligament.

The President.—I suppose Dr. Dudley thinks there may be pain in the back not due to varicocele.

Dr. Dudley.—I am of that opinion.
Dr. Grandin.—As far as my experience goes, it agrees with that of Dr. Coe, that it is difficult to distinguish varicocele in the female from other results of pelvic congestion. Personally, I do not think it as easy without anesthesia to palpate the broad ligaments per rectum as Dr. Dudley might have us infer. Unless the patient is exceptionally thin, I think it is rather a difficult thing to do, particularly if the finger is not abnormally developed. I wish to be understood as not throwing discredit on the doctor's cases and his results, and I am not in a position to criticise the operation as he performed it; but I should be very sorry to read reports of numerous cases in which, throughout the country, the abdomen had been opened in women past the menopause for pain in the course of the ureter or on one side in the back. The abdomen is opened far too frequently to-day for other causes. I do not think that I am in a position to diagnosticate varicocele in so accurate a degree as to warrant me in risking the woman's life by opening her abdomen.

I am in full agreement with Dr. Dudley in the view that cellulitis, as described by Dr. Emmet, has been exaggerated. I do not think there is so much exudation as congestion, and the proof is that measures directed to the relief of congestion, such as rest in bed, hot douche, depletion by glycerin tampon, elevation of the uterus and appendages, prove successful. In the acute and subacute cases the relief is permanent. In the chronic cases it is possible that Dr. Dudley is right, that the vessels are permanently distended, and varicocele is the result. Still I deem it strange that in the large number of women I have examined who had passed the menopause, and who had been for years subjected to more or less permanent congestion, I cannot recall a single one where the symptom on which Dr. Dudley lays stress existed, or where as careful physical examination as I am capable of suggested the existence of varicocele.

Dr. Buckmaster.—Dr. Dudley stated that in one of his cases he also examined all the abdominal organs, including the spleen, and that this was not enlarged. It strikes me that if he was enabled to examine the spleen through the abdominal opening, it must have been exceedingly large. In a number of autopsies in which I have felt for the spleen through an abdominal opening, I have found it very difficult to reach when of ordinary size.

Dr. Dudley.—Regarding Dr. Nilsen's suggestion that the symptoms would have been relieved by removal of the tubes and ovaries alone, without removal of the varix, I cannot agree with that view. About two years ago I performed Hegar's operation upon a woman for metrorrhagia, but while removing the tubes and ovaries I was unable to take out sufficient of the broad ligament, and left the pampiniform plexus. The result was that the patient was not benefited. The pampiniform plexus went on enlarging. About two months ago I operated again, making hysterectomy, and on the left side particularly I found the veins very large, necessitating for safety quelling of the broad ligament. Probably in many cases in which the tubes and ovaries have been removed without giving relief, the failure was due to leaving too much of the broad ligaments and veins. The vessels being left were the seat of congestion, and the patient afterwards had pain and reflex symptoms due to that cause. Indeed, I do not think that in the cases which I have reported the tubes and ovaries had
anything to do with the production of the pain and that their removal alone would have given relief.

I still think the comparison between varicocele in the male and female was well made. As to hypertrophy of the testicle in varicocele, there is a reason for this which does not hold with regard to the ovary. In the male the testicle is dependent and is subject directly to blood-pressure, while in the female the ovary is free and above the varix, and the pressure is only recurrent as upon other pelvic organs through their vessels.

I agree with Dr. Grandin that it is difficult to make the diagnosis of varicocele in fleshy women. Those upon whom I operated were fortunately thin, a fact due to long-continued suffering. None of them had been in bed less than a year. If a patient who has been a chronic invalid a year, or a number of years, comes under the observation of any gentleman who performs laparotomy, and he decides that the trouble, whether a varicocele or something else, is located within the abdomen, he will open that abdomen and remove the trouble. I believe that procedure is justifiable in some cases in which, as far as we are able to judge, the condition is one of enlarged veins or varicocele; and when, after opening the abdomen, we are unable to find any other cause, it is our duty to remove that varicocele.

Dr. Pryor asked Dr. Porter what was the condition of the ovaries in the case of Dr. Dudley's which he examined microscopically.

Dr. Porter.—There was not much left to represent the ovary—little more than a mass of fibrous tissue. In a case which I have recently been examining the ovary was simply a mass of small cysts, the result of ordinary cystic degeneration of the corpus luteum. It occurred to me that back pressure of the blood was perhaps a common cause of these multiple cysts which we see almost universally in the ovaries at post mortem. In fact, I am becoming more and more convinced that chronic congestion is a very common, probably the chief, cause of cystic change observed in the ovaries.

SEMINAL EMISSIONS AT THE AGE OF FIVE AND A HALF YEARS.

Dr. Pryor.—About two years ago I reported the case of a boy 3½ years of age who masturbated; he is now about 5½ years old, and has seminal emissions. I have not yet examined the fluid for spermatozoa. The case was one of "precocious development," with a penis of adult size and hair on the pubes.

SARCUMA OF THE PELVIS.

Dr. Malcolm McLean.—I have a case to report which is somewhat unusual. Mrs. M., aged 25, a primipara, had been delivered with difficulty six weeks before I saw her, forceps being applied at the superior strait. After delivery it was found that she had a tumor in the right side, which during the later months of her pregnancy had been diagnosed by her family physician as the child's head which protruded on the right side as a result of malposition.
When I saw the patient, I recognized a solid tumor attached to the inner side of the ilium in the upper pelvis. It was as large as my fist, and had caused an oblique position of the child's head, thereby giving rise to dystokia. The tumor grew, and I made a diagnosis of sarcoma arising from the pelvic bones. No tumor could be felt by vaginal or rectal examination. The growth finally extended through the sciatic notch, appeared behind the trochanter, and finally destroyed life by exhaustion. At the patient's death the tumor was about twice the size of an adult's head.

**SARCOMA OF THE UTERUS MISTAKEN FOR FIBROID.**

The President related the history of a case of sarcoma of the uterus which, because of its peculiar indurated appearance at the lower portion of the cervical canal, was mistaken for a fibroid. She was the patient of Dr. Thomson, 48 years of age, unmarried. She lost a large amount of blood during the summer, due, as Dr. T. and he believed, to a submucous fibroid of the uterus with a large base. I was asked to see her five weeks ago. She gave all the symptoms of a submucous fibroid. I could dilate the external os just sufficiently to insert my first phalanx of index finger. I felt a perfectly smooth and quite solid tumor projecting downward and within half an inch of the os externum. By pressing upward with my finger as far as possible, I was firmly impressed that a portion of the tumor sprang from the cervix.

Being somewhat puzzled by some of the symptoms, I requested counsel, and Dr. T. G. Thomas was called in. After a very careful and thorough examination. Dr. Thomas also concluded that the patient had a simple fibroid tumor of the uterus, that it was sessile with large base. The patient being so near the climacteric period, he advised that she be put in the best possible condition, and that no attempt be made to remove the tumor. But the hemorrhage became much worse, and it was necessary to give opium to relieve pain. A week ago last Sunday we made forcible dilatation of the cervix and found a sarcomatous growth, which broke down the moment the instrument came in contact with it. The patient was in a septic condition, and died four days later of septicemia. It was found at the post mortem that the tumor had been broken down at the upper portion for some time. The case illustrates the importance of great care in making a diagnosis in supposed fibroids of the uterus. Hysterectomy, when we first saw the woman, might have offered a chance of recovery. A fact which should have had some influence in diagnosis was that the patient suffered much more pain than is usual in fibroids of the uterus.

We should always remember that, at the climacteric period, all rapidly growing and excessively painful tumors of the uterus are most likely to be malignant.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Thursday, December 6th, 1888.

Dr. T. M. Drysdale in the Chair.

(Continued.)

Dr. T. Hewson Bradford read

NOTES OF GYNECOLOGICAL CASES TREATED BY ELECTRICITY.

Recently so much matter has been brought before the profession regarding the use of electricity in gynecology, that I wish to present to the Society some notes respecting the practical application of the battery upon patients in my work at the Gynecological Out-patient Department of the Pennsylvania Hospital. The number of patients so far is small, but covers a large field in diseases of women. In each case I have marked the results of the use of the battery and the extent of the time applied. In the beginning, the treatment was with the acid portable battery of thirty cells, used in the hospital wards, but later the board of managers kindly provided a seventy-cell law battery with controller and milliamperemeter. The abdominal dispensing pole is the clay electrode of Apostoli, and the intra-uterine electrode is the platinum sound insulated with shellac, as devised by Dr. G. Betton Massey. The efficacy of the work is largely due to the services of Dr. Massey and Dr. Robt. H. Hamill, both of whom are associated with me in the department.

Case I.—Stenosis of cervix. ÅEt. 30 years; no children, no miscarriages. Menses irregular, scant, and with some pain. Os pin-hole in appearance. July 14th: Simpson's sound introduced with great difficulty and positive cauterization of eighty milliamperes applied for four minutes. Treatment continued at stated intervals until September 15th, with a total of six applications. She menstruated September 22d, normal in duration, less painful, and again on October 26th, when flow was very free and pain very slight. She considers herself entirely well, the last visit being November 13th.

Case II.—Anteflexion. ÅEt. 21 years; single. One week before she came to us she lifted a heavy weight, and at once felt a severe pain in the back, accompanied by a feeling of nausea. Uterus sharply anteflexed. Cavity two and one-half inches. First visit October 30th. Sound introduced and fundus brought to normal position. November 6th: Positive cauterization, eighty milliam-
peres, two minutes. Patient returned November 8th, 13th, 20th, 22d, 24th, and 27th, and treatment continued with varying strengths and length of application. On the two last-named dates, sound showed uterus in normal position.

Case III.—Metrorrhagia. Æt. 22 years; no children. One abortion five months before. Menstruation occurred every three weeks lately, lasting four days, excessive in amount, with severe pain. Uterus small and in normal position. Os small. Sound enters two and one-half inches. First visit September 19th. Applied positive cauterization, forty milliamperes, four minutes. She returned at stated intervals until November 1st, and treatment continued. Menstruation October 1st normal and but slight pain. Patient returned later, expressing herself well.

Case IV.—Metrorrhagia. Æt. 45 years; no children, no miscarriages. Ill health has lasted for six years. Menstruation irregular, excessive, and very painful. Locomotion painful and difficult. Uterus enlarged, os patulous, cavity three inches. Ordinary treatment pursued from April 17th to June 7th. There then being no improvement, negative cauterization of twenty-five milliamperes was given for seven minutes. The following day she felt severe uterine pains, but after these had left her she felt better than she had done for months. The bleeding continued up to July 7th; it was decided to change the positive cauterization from this date until October 20th; a total of nine applications was made, varying in strength from seventy to two hundred milliamperes and lasting from one to three minutes. August 23d: Menstruation appeared and lasted six days, very profuse. November 1st, it again appeared normal in all respects. She returned later saying she felt entirely well in all respects. A review of this case is convincing that the results might have been obtained by less severe treatment than was used on several occasions.

Case V.—Obstructive dysmenorrhcea. Æt. 32 years; one child three years ago; no miscarriages. Ill health since last pregnancy. A constant pain in sacral region. Menstruation irregular and painful; slight at first, but afterwards excessive and clotted. September 18th: Uterus large but movable-cervix, stellate laceration. Cavity three inches, and positive cauterization, seventy milliamperes, four minutes; pain followed and lasted until September 20th, when it ceased on the appearance of flow. Treatment continued at stated intervals until November 24th, when menstruation appeared, lasting four days, with only slight pain on first day. Flow full and normal; only slight appearance of clots. Patient appears entirely well.

Case VI.—Hyperplasia with dysmenorrhcea and retroflexion. Æt. 20 years; single. Ill for three years, and has had severe pain in back all the time. Cervix had been removed, but symptoms only aggravated. Menstruation regular, free, and painful. Uterus presents a broad, truncated surface, and is retroflexed; cavity two and one-half inches, but broad; negative cauterization, forty
milliampères, five minutes. Nov. 10th: Positive cauterization substituted for negative; sixty milliampères, four minutes. Nov. 15th: Faradic current to vagina; retroflexion corrected. Nov. 29th: Faradic intra-uterine, two minutes. Dec. 4th: Menstruation, first two days scant, last three days full and free. Less pain than for any time for three and one-half years. Still under treatment. Faradic current used to stimulate relaxed vaginal walls.

Case VII.—Subinvolution. Æt. 37: eight children, two miscarriages. Ill since last pregnancy, eighteen months ago. Ten days before coming for treatment, had aborted a two months' fetus. Oct. 4th: Uterus subinvolved, os patulous, cavity three inches +. Treated with tampons of glycerin, hot-water injections, and tonic pills until Oct. 9th, when negative cauterization, one hundred and twenty-five milliampères, three minutes, was applied, producing slight pain. Bleeding continuing, strong faradic intra-uterine currents were used on 18th and 20th, and flow controlled completely. Oct. 25th: Discharged cured. Nov. 13th: Still well.

Case VIII.—Prolapse of left ovary, with adhesions. Æt. 29 years; three children, one miscarriage. Last pregnancy four years ago, since when pain has become progressively worse. Dyspareunia intense; menstruation regular but painful. Painful sanguineous discharge for four weeks. Uterus enlarged and displaced to the right; right side very painful; both tubes enlarged. On the left a mass is felt, apparently a prolapsed ovary, surrounded by exudation. Sept. 22nd: Bromide and ergot. Sept. 27th: Drugs stopped; positive cauterization, forty milliampères, three minutes. Oct. 4th: Negative cauterization. Treatment continued to Nov. 13th, when uterus measured two and one-half inches. Mass to left scarcely discernible. Has had pain at times after applications. Nov. 20th: Faradic intra-uterine application, three minutes. The notes of the treatment of this desperate case, for which abdominal section had been advised by several physicians, shows the care that must be exercised in electrical treatment, and the small currents that are at times best. The case is still under treatment.

Case IX.—Submucous myoma and suppression of menstruation. Æt. 38; seven children; three miscarriages, five years since last pregnancy. Duration of illness, two years. Menstruation irregular, scanty, and painful. Leucorrhea; locomotion at times painful; cystocele and rectocele; uterus hypertrophied; os patulous; cervix congested; vagina much inflamed. Sound enters four inches and encounters a projection the size of a shell-bark on the posterior wall. First visit, Aug. 9th. Negative cauterization, fifty milliampères, four minutes after which she had severe pain. Aug. 16th: Severe pain in left ovarian region, and uterus tender. Aug. 28th. Menses, with severe bearing-down feeling; lasted four days. Sept. 1st: Much pain in left side; treatment continued, varying from positive to negative cauterization, and in strength and duration. Sept. 20th: Tumor still there; negative
cauterization, one hundred and fifty milliamperes; uterus measures three and one-half inches. Oct. 30th: Menstruation on date, lasting six days; cavity two and one-half inches +. Pro-
jection reduced to a slight roughness. Still under treatment. Pain after application, due to a six-mile street-car ride after each
treatment.

Case X.—Intra-mural fibroid. Age. 24 years; one child; no mis-
carriage; last pregnancy eleven years ago; menstruation regular, scant, and painful; leucorrhea profuse; fibroid uterus as large as
an orange; cavity three inches. Sept. 22d: Negative cauteriza-
tion, fifty milliamperes, four minutes. The same treatment was
continued up to Nov. 13th, the strength of the currents being in-
creased to one hundred and fifty milliamperes. Several positive
cauterizations were given. Now the tenderness and purulent
discharge is corrected, and the tumor is reduced to two-thirds

Case XI.—Large intra-mural and sub-peritoneal fibroid. Age.
38 years; tumor first noted two years ago; a large, irregular
fibroid occupies the lower two-thirds of the abdomen; os pa-
tulous and difficult to reach; cervix lacerated; menstruation
regular, profuse, and painful; locomotion difficult, and feet and
legs swollen; nodules of tumor painful. Aug. 14th: Negative cau-
terization, sixty-five milliamperes, four minutes, which caused for
some days pain and continuous sanguineous discharge. Aug. 16th:
Positive cauterization, one hundred and twenty-five milliamperes,
four minutes. Treatment, with negative and positive cauterization,
varying up to one hundred and fifty milliamperes, continued until Oct. 18th, when tumor was an inch or more below umbilicus,
and she could wear clothes four inches less in waist circum-
ference. Deep sulci between nodules. Dec. 4th: Since last
visit has been feeling badly; sickness appeared Nov. 28th and
lasted four days, profuse and painful. Every night since last
visit she has had a thick discharge, accompanied with pains,
similar to those of labor. Kneeling produces large discharge of
white, stringy substance. Tumor has considerably diminished.
It is probable that the shreds noticed by her are portions of the

Dr. G. Betton Massey said he had a special interest in watch-
ing these cases and experimenting to determine the justice of
claims that have been made by Apostoli and others. At Dr. Brad-
ford's request, I performed the electrical operations for him at
his clinic. I think that we had good results in several cases; and
if the cases had been summarized more briefly, this would doubt-
less have appeared more sharply in the case of stenosis of long
duration. The application of a few positive cauterizations, at
considerable intervals, seemed to result in a complete cure. The
treatment extended over several months, but the applications
were generally made at intervals of one or two weeks. But it is
sometimes difficult to determine how frequently the applications
should be repeated. My observation of these cases, and of others
in private practice, has been that it is not wise to make applications of more than fifty milliamperes often than twice a week.

The second case, one of marked anteflexion of the third degree in a young girl, and probably the result of strain, is rather unique. She seems to have been cured by two or three positive cauterizations of fifty to eighty milliamperes, lasting over a period of a few weeks. Several months have elapsed since the cessation of the treatment, and the uterus still maintains its normal curve. The idea was, if we had a flexion of the uterus due to muscular relaxation on one side, the galvanic current would throw it into a spasm and keep it there, and at the same time cauterize the uterus and make the canal more patulous. I believe that the approved electrical treatment of flexion at the present time is by the bipolar faradic current to throw the uterus into contraction. I have, however, had no experience with this method. It is difficult to get a bipolar electrode that can be thoroughly cleaned.

The third case was one of acute metrorrhagia, with an excellent result. Case VII. was also one of metrorrhagia. The lesson of these two cases, as has been stated in the paper, is that galvanic treatment of a surgical nature (over thirty or forty milliamperes) is rather harmful in the recently parturient womb. In the seventh case, I think there was decided aggravation of the difficulty as the result of three cauterizations. The effect of the faradic current, monopolar, was very marked in arresting at least two-thirds of the hemorrhage. The second application was followed by complete arrest.

Case IV. deserves particular attention; it was one of protracted metrorrhagia in an elderly woman, with hyperplasia of the womb and evidently some endometritis. As was stated in the paper, this case was overtreated. I can recognize a stage in her case, in July or August, and in September, when she was practically cured as the result of the application of a moderate current. In these months, the cauterizations made her worse for a week. She is now entirely well.

Case VIII. was much like one delineated by Dr. Taylor. There was a mass of induration, in which most likely an ovary was included. The patient has apparently been benefited. It was particularly apparent in her case that nothing but very moderate currents, twenty to thirty milliamperes, were immediately beneficial. Whether or not heavier currents would have been beneficial is a question. Even the introduction of the electrode was followed by pain and cramps. Low currents, even, at times aggravated the pain temporarily. There has finally been vast improvement. The fibroid cases have been well delineated in the paper. These cases showed a great lessening in the size of the tumors and an amelioration of the symptoms accompanying them.

Dr. B. C. Hirst thought it was a gratifying fact that we were advancing in this branch of therapeutics. It seemed that for a time we did lag behind other gynecological centres. He had seen some of Dr. Massey's work. At Dr. Hirst's request he had applied the current at the Philadelphia Hospital on a patient with retarded involution, due to multiple fibroma, with good results. He tried electricity some time ago but with very little result, because he had, he thought, used too weak a current, and because he did not thoroughly understand the application of electricity in gynecology. He thought that much of the criticism of this kind of treatment had been ill considered. He had just read Mr. Tait's criticism in
the British Med. Jour. Mr. Tait went to Paris to learn Apostoli's method, but when he got there he refused to visit Apostoli. He said that on inquiry he did not hear sufficiently favorable reports to make it worth his while to go and see the method applied. This reminded him of the English gentleman who went to the West Indies to see the pitch lake, and on his arrival sent his steward to look at it for him. Dr. H. thought that in the future electricity must occupy a very prominent place in gynecological treatment. With the excellent appliances that our prominent electricians possess, and the skill they have acquired by recent practice, we should accomplish as much in this direction here as has been done in other places.

Dr. J. M. Baldy said that he had never used electricity in his gynecological practice for the simple reason that he had not felt competent to get the best results, not being an electrician, nor had his observation of the work of others made him desirous of doing so. He had, however, done still better; he had put himself in the way of observing the work of experts in this branch of practice. He thought that Mr. Tait's time had been well spent in not going to see Apostoli—better than his own. Mr. Tait said that on inquiry amongst the patients of Apostoli, he found that there had been so little benefit that he did not consider it worth while to go merely to see the details of the application. He had hunted up the patients and studied them. What Dr. Baldy saw at Apostoli's clinic was entirely negative. The most conservative review of electricity in gynecological practice that he had seen recently was that of Croom, of Edinburgh. Croom took the precaution of having the applications made by a gentleman specially skilled in electricity—Dr. Milne Murry. He continued the treatment one year, applying it specially to fibroids. He states that his results have been entirely negative. He has seen greater risk to life from the use of these applications than from the knife in the removal of the uterine appendages. There are some details in the application which would strike one, as it did himself, not in the habit of using electricity, very forcibly. Apostoli denies that there is pain. Dr. B. did not see a patient treated by Apostoli that did not cry out and squirm with pain. The same thing was noted and remarked upon by an English surgeon who was there at the same time with himself. He had also observed this at the Pennsylvania Hospital, even under comparatively low currents. After the punctures in fibroid tumors, as seen in Paris, there were left nasty, ugly-looking, sloughing sores, requiring constant care that they might not set up a bad septic trouble. Having seen none of these annoyances mentioned in reports, he was somewhat astonished.

He had followed with considerable interest the observations made at the Pennsylvania Hospital, but what he had seen had not influenced him to think much better of the treatment. In a number of the cases the patients were made worse. One was a case of papillomatous cyst, afterwards operated on, in which, after talking the matter over, it was decided that there would be great risk in continuing the treatment, as the patient had become so much worse after each of two applications. Another case, the one of pelvic inflammatory trouble reported in the paper, had, he believed, not been improved up to the present time, and if anything was rather worse. One of the gentlemen connected with the clinic told him that he also believed that nothing but the knife would help her. The good results that Dr. B. did see were just such re-
sults as he was in the habit of getting by free purgation and other treatment. Patients with a pelvic mass will often, after free purgation, come back so much relieved that they will consider themselves cured, and will refuse operation. This is exactly what he had seen from the use of electricity and nothing more. In regard to fibroid tumors, one of the cases reported had told him that before the applications of the current she had had no hemorrhage of any account and that she had not obtained benefit from the treatment, but that her bleeding had become much worse. Subsequently he believed that she had progressed somewhat better. The diminution in the size of the tumor was so little that he could not determine it by the sight and touch. He was still open to conviction, if he could find anything which would make him think that permanent good could be obtained, but he wanted more than the mere report of cases—he wanted to see the cases and judge for himself.

Dr. T. M. Drysdale had not intended to take part in the discussion, but he could not permit what Dr. Baldy had said to go unchallenged. He had had some experience in this matter, having been working at it pretty steadily for the past three years, and he intended shortly to give his results to the Society. He thought that the great mistake in regard to electricity was that its advocates have claimed too much for it, but it must be admitted that many of these claims had been proven and its positive value established by the results of practice. It is certain, for instance, that, in some forms of hemorrhage from the uterus, there is no other agent that will take its place. He had seen it cure metrorrhagia when ergot, erigeron, local applications of iodine, and in fact everything else has failed. Again, he had seen large plastic exudations in the pelvis entirely disappear under the use of currents of electricity. He had used it in only four conditions—pain, hemorrhage, plastic exudation, and uterine fibroids—and experience had taught him that there was a good deal in the manner of application of this powerful agent. He had not adopted all of the methods of Apostoli; for instance, he never punctured a uterine fibroid, believing that the practice is a perilous one and entirely unnecessary, for without it he had met with at least equal success with those who have used it. In his hands it had proven decidedly successful in the treatment of uterine fibroids, resulting, in many cases, not merely in arresting their growth and checking hemorrhage, but in their entire cure. One of these cases in which there was a complete disappearance of a uterine fibroid, was reported by Prof. Skene at the meeting of the Gynecological Society at Washington. Six years ago a patient of his removed from Brooklyn to our city, and was sent by him to me. She was suffering from excessive hemorrhage, the result of a submucous fibroid about the size of a small coconut, which he removed by enucleation. She afterwards returned to Brooklyn, and had no further trouble until two years ago, when she commenced bleeding again. After being treated by several physicians she came to him. On examination, he found a soft, interstitial fibroid tumor, about 3 in. in diameter. She could not remain in Philadelphia at the time, but in three months she returned, when the tumor was found to be growing rapidly, while she was greatly reduced by repeated hemorrhages. In October, 1887, the use of electricity was commenced, and in April, 1888, she returned to Brooklyn and was examined by Prof. Skene, who found the tumor had entirely dis-
appeared. He could give many other instances, but should reserve them for a future paper.

Dr. John B. Deaver would ask those gentlemen who have been using electricity in the treatment of plastic exudates whether the rationale of the treatment is not the same as in the treatment of urethral stricture by electricity. In his hands this had proven utterly useless. Dr. Keyes has written an elaborate paper in which he condemn its, concluding that it is without benefit.

Dr. Joseph Price thought it would be just as well if every one would give us their bad results as well as their good. Many have had sad disasters with this method of treatment. He had once seen presented to the New York Obstetrical Society several fibroids which had been sloughed out from the cul-de-sac of Douglas. Dr. T. A. Emmet at the time remarked that the good Lord had saved the patients in spite of the treatment. Dr. Baldy had stated what he saw at Apostoli's clinic. When Dr. Massey stated that he had used it from an exploratory and experimental point of view, he nearly struck the keynote of the whole business. He had himself given it a fair trial, but had found it wanting. His experience differed from Dr. Taylor's as regards gonorrheal infection. He had found, in about every case, a gonorrheal history in the father. In one case, a blind child had met him at the door, and he removed pus tubes from the mother. The father confessed to having had the disease twice. This case he could duplicate many times, minus the blind child. He valued the bicarbonate of ammonia for the saving of eyes than for the saving of women. It was rare now that he ever had ophthalmia in children. Dr. Baldy had covered the points in regard to the bowel disturbance. In these cases of pelvic exudate—he called them pus tubes—a saline would often completely relieve them temporarily. A fungoid condition of the uterus is rare. He rarely has to use a curette. The danger of electricity has been dwelt upon by a great number of men throughout the country, and most who have tried it have given it up for some milder application.

Dr. H. A. Kelly said this is a matter of great importance. There is outside the domain of abscesses and big tubes and ovaries a class of cases which still trouble us, and for which the profession has looked with hope for relief from the proper application of electricity, which has not yet had a fair trial at the hands of gynecologists. The great claims made by a few men at the outset have not yet been justified, and have been an injury to the whole subject. He had seen some good results, and felt that in a limited number of cases we shall be successful. The caption "fixation of the uterus" is a convenient one, for it is often the first thing that attracts our attention. There are three ways in which fixation of the uterus is produced. One is by eccentric growth; the enlargement of the uterus itself fixes it in the pelvis. He recently performed abdominal section to determine whether or not a uterus enlarged by cancer was fixed by deposits in the broad ligament or the pelvis. Finding nothing, he closed the wound and removed the uterus by the vagina. The second cause of fixation is the presence of diseased tubes and ovaries; remove these and the uterus is free. Outside of these conditions there are cases of dysmenorrhea, where we are apt to diagnose stenosis or endometritis, in which the mobility of the lower part of the uterus is limited. In these cases he has learned a point which he thinks is one of the most valuable he has yet learned in gynec-
Odynology. Digital examination reveals a tenderness on the left side; on pressure there is no marked degree of resistance on the two sides, but we often note the left fornix obliterated or shallow. Determining exactly the nature of trouble and proceeding upon a plan of treatment for their cure, he has been able to throw an entirely new light upon such cases. It is to catch hold of the anterior lip of the cervix, draw it down, and then, passing the finger behind the uterus, we feel on one side the broad ligament, but on the other side we now feel what we could not feel before—a distinct hard line either in the broad ligament, the utero-sacral ligament, or both. He then employs massage to stretch this tissue. A patient recently came to him with a uterus thus fixed and the ovary bound down on the left side. By drawing the uterus down and pressing up on the adhesions, they were thus gently torn apart and separated, and by the aid of this treatment the patient has been cured of all distress and the ovary is mobile. He had treated the case for months before by other methods without relief.

Dr. B. F. Baer said he was glad to hear and see the graphic description given by Dr. Kelly, as it supported the position which he had taken before the Society at the last meeting. Many of these cases are benefited and practically cured by this treatment used with other remedies. He finds large retroflexed and fixed uteri more difficult to manage than fixed tubes and ovaries. When it is determined that the tubes are incurably fixed or contain pus, they should be removed. He is a firm believer in the value of hot water as a stimulant to absorption of inflammatory exudate. He has used galvanism, and believes that it is an excellent stimulant to absorption. From what he saw while he was in Europe, he procured a battery of the same pattern as that of Apostoli, and had used it in many cases since his return. He had learned to look upon galvanism as an excellent stimulant when given in small doses in cases of exudation, but he questioned whether it was better than hot water, iodine, and massage. It is a powerful and dangerous remedy sometimes, when used in doses large enough to induce electrolysis, especially when puncture is used. Without puncture in large doses great pain is given, and unless the dose is large the process is slow and tedious. He who would hope to get good results from this treatment must use great patience. In a case of interstitial fibroid he had used the positive pole intra-uterine. After the second application the hemorrhage ceased. He began the dose at eighty milliamperes and increased it to two hundred. The latter strength caused so much pain and tenesmus that, after a month's treatment, the capsule of the tumor beginning to break down and slough, he stopped it. He then tried to enucleate the tumor, but did not succeed, and the patient died from metritis. His mistake was want of patience in the use of electricity. In similar cases he was using lower strengths and giving more time. The patients are symptomatically improved, but the tumors do not rapidly decrease in size. He had removed by laparotomy a pedunculated fibroid, on which electricity had been faithfully tried by an expert for several months. He thought that the treatment had done more harm than good in this case, as it was subperitoneal and pedunculated. In a tumor of that character, electricity has little or no power when applied without puncture, and to puncture in that case
would have subjected the patient to greater danger than to remove it by laparatomy.

The President.—I do not agree with that. You get electrolysis from the simple passage of the current, even if there is no puncture.

Dr. Baer replied that he did not know the meaning of electrolysis, if it was not the destruction of organized tissue by resolving it into its elements, and to get this action a higher power than one would be warranted in using must be applied.

There is another class of fibroids in which the curette for the control of the hemorrhage is more rapid, safer, and just as efficient, if not more so, than electricity, which he would illustrate with a case. The patient complained of great hemorrhage and pain. Examination revealed a hard, nodular mass connected with the womb. The end of a finger could enter the os, and the cavity was four inches deep. The cervix was dilated, and a large mass of fungoid growth was removed in five minutes. Iodine and carbolic acid were injected into the cavity. She is cured symptomatically, and the tumors are smaller and more mobile.

Dr. Geo. E. Shoemaker thought there was no doubt that the claims made for electricity were exaggerated. However, electricity will contract the capillaries and lessen the size of any vascular tumor. Any one can prove this by applying, when he has a coryza, one pole on each side of the nose, and passing a mild current. In a few moments the nose will be free. In the same manner it may temporarily lessen the size of the capillaries in these pelvic cases, and so temporarily diminish congestion.

Dr. M. Price said that he had only found two forms of fixation of the uterus. One is non-inflammatory, the other bound down by inflammatory bands. It was absolutely useless to tell him that a uterus bound down by adhesions could be replaced. It would be as easy to believe that adherent fingers and toes, resulting from a burn or scald, could be relieved, as that electricity applied to the pelvis could release adhesions of the uterus, when it is all that we can do at times to tear them loose with the finger. In regard to massage, it is absolutely absurd to talk of any patient submitting, who has any decency, to a man fingering her vagina by the week. If there were inflammatory trouble it would do mischief. He had a case where electricity had been used, and where all sorts of applications have been made. He was positive that there was pus. The temperature was 103°.

Dr. Wm. Goodell could not allow the remarks which Dr. Price had just made to go unchallenged. He believed that massage of the fixed womb could be employed with propriety, and without the indecency alleged by Dr. Price. He had, with Dr. Taylor, treated a case in which a pelvic inflammation had been set up by treatment at the hands of an irregular practitioner. She almost died, but finally recovered, with the roof of the pelvis feeling like a hard board. The womb was enlarged, and absolutely immovable. She had menorrhagia and constant pain. He began treatment by application of a mixture of carbolic acid, iodine, and chloral, and by using uterine massage. In doing this one simply passes one or two fingers behind the womb, and catching it from above with the other hand, rocks it from side to side, and backwards and forwards, stretching the adhesions, and separating them, if possible. Dr. Taylor administered electricity locally. To-day she is in rude health. The discussion in regard to elec-
Obstetrical Society of Philadelphia. 533

tricity reminded him of the old story of two knights approaching an image from opposite directions. The one insisted that it was gold, and the other that it was silver. From words they came to blows, and in their death struggle they looked up and saw that the image had two sides to it, the one gold, the other silver. He thought this subject also had two sides to it. He had closely watched the growth of electricity, and had always felt that there were remedial virtues in the agent which would be developed. Yet while he believed that we could get a great deal of good from it, he did not believe that it would cure pus tubes or suppurating ovaries; neither does he believe it will remove organized adhesions, although he felt sure that it would cause the absorption of recently deposited lymph which is not organized. He knew from unquestionable facts that in fibroid tumors in which hemorrhage is a prominent symptom, electricity is an admirable agent; but he was not ready to accept the statement that it will reduce the size of fibroid tumors, either permanently or without subjecting the patient to more risk than the operation of oophorectomy. He knew of one of his friends who had had two deaths. Another has had one death, if not more. A third applied electricity to the womb of a lady in his office, and she died of inflammation a few days later. A fourth friend met with the same disaster, although he is an authority on electricity. On the other hand, he knew of the wife of a physician who had been treated in various ways, without benefit, for hemorrhage coming from a fibroid tumor. The curette, however, had not been used. Three applications of electricity cured her. Her husband assured him that he had two or three other patients cured in the same way of hemorrhage. He thinks that in fibroid tumors, when a current of 150 to 200 milli-amperes is applied, we shall be likely to obtain the result which occurred in a case lately reported in the Amer. Jour. Obstet., viz.: An opening into the capsule of the tumor, and the slow delivery of the latter by the vagina. If we decide to enucleate by vagina, it is far safer to incise the capsule, and remove the fibroid at one sitting. Such treatment prevents necrosis and its attendant dangers. He thinks there is a great future before electricity, especially in those cases in which operative procedures should not be resorted to, and in cases of recent pelvic exudates.

Dr. M. Price said that Dr. Goodell started out with a very pretty case indeed. The pelvic abscess was evacuated, and all that was endangering her life was removed. Unless there was multiple abscess the woman was safe after this discharge. Some years ago he had two cases of rupture of the abscess, one through the bowel and the other through the vagina. Both of these women are as healthy as any in this city, and neither electricity nor massage was used on them.

Dr. J. M. Baldy did not mean to deny that electricity would relieve pain and hemorrhage in vascular tumors. Electricity is, however, a dangerous remedy used indiscriminately and in large doses, where we do not know the exact condition of affairs. The diagnosis in all abdominal troubles is obscure, and most so in pelvic growths. He considered that in hemorrhage and pain we had safer remedies than electricity, and could accomplish just as much with them with much less risk. He realized that in fibroid tumors electricity will diminish the size, but he thinks that a study of the cases shows that the effect is only temporary. The growth of the tumor could be stopped as well by other means as
by electricity. It is the height of absurdity to talk of electricity removing organized adhesions, without removing the patient also. In regard to the treatment by massage—if he attempted to so treat such a case as Dr. Kelly had so beautifully pictured on the board, and as had been talked of by other gentlemen, he would not say it would be indecent, but he was positive that he would lose the case; it would surely leave him and go to one of his fellow-practitioners. In such cases, the patient will hardly permit the necessary manipulation incident to an examination on account of the pain produced, and she would never tolerate for one moment such procedures as had been advocated. He did not believe that such treatment was at all feasible.

Dr. J. Price said that in regard to the mortality, Dr. Chadwick, of Boston, says that he has had two fatal cases out of eighteen, and that he has given up its use. With thirty-one hysterectomies in Tait's experience and no deaths, and thirty-eight in Keith's with three deaths, we see that the mortality following electricity has been greater than that of hysterectomy in the hands of such men as Tait, Keith, Bantock, Thornton, and others. He had had a case similar to the one of Dr. Goodells. The pus was evacuated. He did not attempt to release the fixed uterus. The woman is now pregnant.

Dr. Taylor said that his experience had been chiefly with pelvic deposits. He had used electricity very little with anteflexion. In these cases rapid dilatation has relieved the trouble in a shorter time. In menorrhagia or metrorrhagia, the curette answers the purpose sufficiently well, and in seventy per cent of the cases it relieves the trouble. In regard to gonorrhoea, he would simply state that he did not deny that it may be a cause of pelvic trouble. He was very glad to hear of Dr. Drysdale's success in the treatment of fibroids, but he did not think we could conceive of an electrolytic action sufficiently extensive to cause breaking down of a fibroid, unless there was an electro-puncture.

Dr. T. H. Bradford said that if Dr. Baldy had seen the cases to which he had referred at a later period he would have found that they had been benefited. The case of papilloma of the right broad ligament was one which nothing but operation could relieve. He was satisfied that great good could be done in some of these cases by the use of electricity. The result so far obtained has been satisfactory. Out of eleven cases, there have been several cures, and all have been benefited. He would continue to use this remedy, and would at a later period give the Society the result.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of December 13th, 1888.

The President, Dr. G. S. Mitchell, in the Chair.

Dr. Byron Stanton read a paper including the report of several cases of Placenta Previa.

The management of cases of placenta previa was the subject of much controversy among the older obstetric writers. Then for a long time the practice of speedily terminating labor by podalic version was fully accepted as correct, but a little less than fifty years ago Prof. Simpson disturbed the serenity of the obstetric world by the advocacy of a new plan of treatment applicable to a certain class of cases, which consisted in the artificial detachment of the placenta. This new method of treatment he recommended when hemorrhage was so great as to call for prompt relief but when the parts were not in condition for immediate or forcible delivery of the child, where the os was rigid or undilatable, when the pelvis was so contracted as to interfere with easy delivery, or when the child was known to be dead. The controversy which grew out of Simpson's method has continued, and at the present day there are few obstetric questions more unsettled than the best course to pursue in cases of placenta previa. And yet but few questions of more importance can present to the accoucher.

In regard to the treatment of these cases, it may be divided into the prophylactic and curative. The only prophylactic is the production of premature labor. The flooding in placenta previa rarely occurs before the age of viability of the child. It occurs mostly in the last four or six weeks of gestation, so that the life of the child is not necessarily sacrificed by early delivery. Indeed, so great are the dangers to the child if left to nature that its safety alone would be sufficient reason for inducing labor, the dangers of prematurity being less than those of hemorrhage. As early delivery also gives the greatest safety to the mother, it may be regarded as a fixed rule of practice to resort to the induction of labor in the last month of pregnancy in all cases of placenta previa. As the danger to the mother increases as gestation advances, because of the increased size of the uterine vessels, to try to conduct the pregnancy to term is to subject the patient to increased risk. That course should be pursued that will most speedily and safely insure the delivery of the child; for not only is
the danger of a fatal result from bleeding less, but the operative procedures so often called for in placenta previa are much better borne if resorted to before the mother is reduced by hemorrhage. Version is no more dangerous in placenta previa than in ordinary cases of difficult labor, if the mother is not in an enfeebled condition.

Case I.—I am permitted to report by Dr. Bange, by whom I was called in consultation to see Mrs. D—, who had about completed her first pregnancy. A few weeks before she had had some bleeding, but it had ceased without treatment. When Dr. B. was sent for, he was informed that the patient had been bleeding all day, but she had not felt labor pains. Finding the case one of placenta previa, with hemorrhage becoming profuse, Dr. B. called me in consultation. A vaginal tampon was introduced about seven o'clock, which arrested the flooding. Labor pains came on during the night, and the next morning the plug was removed for examination; but the parts not being in a condition to permit delivery, the vagina was again plugged. In the afternoon pains increased in strength, and before Dr. B. could reach the patient the tampon was forced out and a small, dead child delivered. Some hemorrhage followed, but it was soon controlled by ergot.

An interesting point in this case is, that the woman was a primipara. The statement has been made—and at one time the opinion was held by highly respectable obstetricians—that placenta previa does not occur in first pregnancies, and very rarely takes place as early as the second. It is true the abnormal attachment is much more frequent in multiparae. This fact has always been recognized. There is, I think, no doubt but that the determining cause is some diseased condition of the uterine mucous membrane, and that these conditions more frequently occur in multiparae than in nulliparae. Deficient involution of the uterus is the chief cause of placenta previa, but an endometritis not dependent upon childbearing may have the same effect.

Case II. is a case of placenta previa marginalis. I was called July 10th to see Mrs. ——, in labor in her third pregnancy. Not having been informed by the messenger that there was any immediate necessity for my presence, and her two previous labors having been very tedious and terminated by the use of forceps, I anticipated a long detention and visited some other patients before answering the call. I found, on my arrival at the house, that labor had commenced some hours before, and that there had been a constant but not profuse bleeding. The pains were rather weak and not very frequent; the membranes had ruptured a short time before my arrival. On examination the os was found well dilated, and I could feel just within it the margin of the placenta attached to the anterior wall of the uterus. The vertex was presenting in the L. O. A. position. The conditions being very favorable, forceps were applied, not so much to expedite delivery as to excite
uterine contractions and to make traction on the head. By these means the bleeding was arrested and delivery followed in a short time, the child being alive and the case terminating as a natural labor.

Case III.—I was called July 1st to see Mrs. B., who had advanced about one week in the last month of her fourth pregnancy. She had had a hemorrhage at about the beginning of the seventh month, which had subsided spontaneously. I found her bleeding profusely, but she had experienced no labor pains. On making an examination I found the vagina full of coagula, the os uteri closed, but a soft mass could be felt through the uterine walls, which I supposed to be the placenta. Under these circumstances I felt that no means at my immediate command promised such security to the patient, who had lost much blood, as the vaginal tampon. I at once removed the coagula and plugged the vagina with cotton, which arrested the bleeding. In two hours perceptible labor pains began. These gradually increased in severity, and in seven hours they were quite strong. The hemorrhage then recurring, an anesthetic was administered by Prof. Mackenzie, who had been called to my assistance, and the tampon removed. Finding the os sufficiently soft and dilatable to permit the introduction of my hand, I introduced it between the placenta and posterior uterine wall, passed it to the upper part of the uterus, when the membranes were ruptured, the feet seized, version readily performed, and delivery of a living child effected. The mother was much prostrated by the loss of blood, but recovery was in time complete.

The value of the tampon is well shown in this case. It arrested the bleeding at a time when the loss of a little more blood might have been fatal to both mother and child, when the maternal parts were not in a condition for delivery to be performed, when labor pains had not been felt, and when it was desirable to excite uterine action promptly. When the parts were in a condition favorable for delivery, turning was resorted to and the delivery completed as speedily as possible. This, I take it, is the proper treatment in such cases. If the maternal parts are not in condition for speedy delivery and the hemorrhage can be arrested by tampon, it is better to delay turning, even in transverse presentations, than to attempt to correct a faulty position before the os is sufficiently dilated for delivery to be quickly completed. If the child is living and viable, and the os uteri soft and sufficiently dilatable for the passage of the head, the interval between version and delivery should be short. By rapid delivery we avoid the risk of compression of the placental tissue, which may interfere with the placental respiration of the child, and the greater risk of compression of the cord. Even when the membranes have ruptured, waiting does no harm; the difficulties and dangers of turning not being increased if ergot has not been given, but diminished if the delay is not carried beyond the period of dilatation.
Dr. McComas, of Oakland, Md., who was present by invitation, said that owing to the distance which he usually had to travel to attend such cases, it was necessary for him to deliver as quickly as possible, because they had proceeded so far that no time was to be lost. As the os was sufficiently dilated when he arrived, he turned and delivered the patient promptly. By following this method he had never had a death of the mother.

Dr. Isham said that the subject brought up the question of the treatment of early hemorrhage. Some years ago he published an article in the American Journal of Medical Sciences, in which he advocated the hypodermic administration of morphia for the purpose of allaying uterine action and hence arresting hemorrhage. He there reported a case where hemorrhage in the sixth month of pregnancy was thus controlled and danger for the time averted. This procedure was, however, unfavorably commented upon by Dr. Phillips of England.

Dr. Langdon thought such practice eminently proper in cases where anything was indicated that would quiet uterine action.

Dr. Gustav Zinke said, as all cases of placenta previa are not to be met with under similar conditions and at the same period of pregnancy, the treatment would of necessity have to vary. Those coming under observation at the end of the seventh month required different treatment from those encountered at a later period. In all, however, the hemorrhage was due to partial separation of the placenta and to the contractions of the uterus, painless or otherwise. Hence the application of morphine, chloral hydrate, and other remedies for the purpose of allaying or arresting uterine action was good treatment in cases of contracted os or prior to the period of viability of the child. The principal condition to be enforced was rest, and the horizontal position maintained consistent with the health and comfort of the patient.

He had tested the use of the tampon, so strongly recommended by the essayist and others, but had abandoned it in favor of concentric separation, as recommended by Barnes, resorting only to the use of the tampon for the purpose of dilating the os. In one instance he had used a roller bandage which he partly unrolled, introducing the roll into the cervix while he packed the unrolled portion around the cervix in the vagina. It served the purpose of dilatation admirably, and at the same time controlled external hemorrhage. In this case labor was accomplished by forcible separation of the placenta and the turning of the child. The patient died a week later from phlebitis and septicemia, the result of a rupture in the cervix and upper segment of the vagina. The result in the latter case, as well as previous experience, forced upon him the conclusion that tamponing is no preventive against hemorrhage. On the contrary, it had, he believed, a tendency to increase rather than stop or lessen the same. Bleeding occurs from that portion of the placenta during the process of detachment and from the uterine surface to which it was adherent. After separation hemorrhage ceases, provided the pains are not persistent and sufficiently violent to increase dilatation of the os and precipitate labor, in which case plugging would certainly be only a loss of time, and thus entail serious consequences to both the mother and the child. Since the tampon does not prevent bleeding, he confined the application of this treatment to those cases in which it was impossible to gain access to the placenta,
and where the loss of blood was so great as to imperil the life of the patient in case labor was further postponed. Three cases had recently come under his observation in which his success was better without the tampon. In a very recent case, hemorrhage came on at the end of the sixth month. From abdominal palpation and auscultation he concluded it to be a breech case, and as the placental bruit could be heard distinctly just above the symphysis pubis (the uterus being high up in the abdominal cavity), he thought it suggestive of placenta previa. As, however, intrauterine disease, lacerations and granulations of the cervix were also associated with this case, he looked upon the latter as, perhaps, the probable cause of the hemorrhage, which at the time was trifling. Two weeks later another more profuse hemorrhage came on, and in two weeks thereafter another, still greater in quantity though not alarming in character. He then felt the placental mass through the cervix, and with the examining finger separated the placenta concentrically to the extent of an inch around the circumference of the internal os. The result was, the hemorrhage ceased almost immediately; the cessation lasting two weeks, when it again manifested itself. At this time the os readily admitted the index finger. Concentric separation of an inch was again resorted to, which resulted in the stopping of the hemorrhage. Thus far the patient was none the worse for the loss of blood. At the end of the first week of the ninth month of pregnancy another inconsiderable hemorrhage occurred with painful uterine contractions. The placenta could now be distinctly felt all around the os, to the size of about a silver quarter. An additional concentric portion of the placenta was again detached, and, after assuring himself that there was no further loss of blood, he left, intending to return again at noon, having given instructions that the patient was not to move in nor from the bed, and that he was to be summoned at once if there were increase of pains or hemorrhage, while, at the same time, he would remain within calling distance. On his return no hemorrhage had occurred, while at this time the os was dilated about two inches and a half; pains light and occurring at intervals of half an hour, and the child still living. At 3 p.m. he was hastily summoned; found the os almost fully dilated, there being, however, no hemorrhage present, neither had there been any; quite a large portion of the placental mass extruded from the os, but the child was still alive. He ruptured the membranes at once, brought down the head, and delivered as in a normal case. The mother recovered excellently, but the child died during delivery.

The same treatment was adopted in a case which the speaker saw with Dr. Fackler. Before delivery was effected, however, the long delay having dissatisfied the family, they discharged both the speaker and Dr. Fackler, and called in another physician who delivered the patient at term successfully. Both mother and child living and healthy.

The presence of intrauterine disease may cause placenta previa, which explained its occurrence in the first case. The appearance of the impregnated ovum toward the end of the menstrual period, when the convoluted mucous membrane of the uterus had again become smooth, may also be looked upon as a cause of placenta previa. Again, our treatment of disease of the mucous membrane of the corporeal cavity is more effectual nearest the cervix; hence the improvement in this region will be more rapid than
elsewhere in the cavity of the womb, and, consequently, the ovum is apt to engraft itself here rather than at the fundus, where the mucous membrane is rendered incapable by disease for easy attachment.

In criticising the method adopted by Dr. McComas, the speaker thought the doctor's method only advisable when there was immediate danger. Laceration of the cervix is very apt to be caused by his procedure, and many cases of death from septicemia or phlebitis, or both, may be attributed to this cause. Hence, if there is necessity of its being done, it should not be done hastily, as there is no need of haste after version has been effected, the inferior extremity being a safeguard against the loss of blood when once in contact with the bleeding surface. He thought it best to introduce the hand gradually between the placenta and the uterus on one side, rather than to perforate the placenta, and to bring down the limb for the purpose of delivery by turning, and thus effectually close the opened uterine sinuses.

Dr. Stanton inquired: What then was the object of compressing the placenta by means of the presenting part, if, as the speaker claimed a few minutes before, the separation of the placenta itself would stop hemorrhage?

Dr. Zinke explained that separation of nearly one-half of the placenta, for the purpose of turning, was a different procedure from that of separating it concentrically around the inner os; that during the early stages only a small portion of detachment of the placenta is implied; that, consequently, hemorrhage is slight and of short duration. Further, at this stage the patient can afford to lose some blood, while later there is danger because of the extent of surface suddenly exposed. Even here, however, bleeding would gradually cease, were it safe to wait, as is well demonstrated in cases where the whole placenta has been forcibly separated and extracted, as was practised and recommended at one time by Simpson. Hence compression should be made by bringing down the presenting part.

Dr. McComas remarked, in answer to the criticism made upon his method of treatment, that he had distinctly stated that his cases were at a great distance, and that during the time of his reaching there the os had perfectly dilated, thus requiring immediate action in rapid delivery. He knew very well that a too early action in turning might produce laceration of the cervix, besides endangering the life of the child by constriction of the cervix around its neck in the after-coming head.

Dr. Zinke said that, with all deference to the skill and experience of Drs. Reamy, Taylor, Stanton, and others, he believed he could nevertheless hold his ground. He had seen seven cases of placenta previa, and in those cases where he trusted mainly to the tampon to stop the hemorrhage, as well as to dilate the os, the children died, and the mothers succumbed, owing to the amount of blood lost from injuries during the delivery, and subsequent septicemia. These were his reasons for resorting to Barnes' treatment. If experience assured him that by following this practice he was doing that which was safest for the mother, the safety of the child was of minor consequence. Though other physicians might succeed him in a case and safely deliver a woman even of a living child, he would still adhere to the belief of having done the right thing in pursuing the aforesaid course,
and thereby insure a happy issue of the case by having laid the foundation for its success. He knew that the leg would form an excellent plug, but he objected to "the rapid delivery" method referred to in the discussion, without regard to the stage of gestation, the amount of hemorrhage, and state of the cervix. What was the treatment of bleeding wounds in other localities? Would one permit bleeding to go on without laying bare the parts in order to find the source of hemorrhage and thus stop it? Does not bleeding cease spontaneously when the clot is removed and the parts exposed, especially if of venous origin and from a torn surface? What is the benefit of a tamponed cervix (or vagina, for that matter), if bleeding still continues above it, as it surely does? And if, after introducing the tampon, the flow of blood, perchance, should really stop, plugging is not the remedy. Tamponing dilates the cervix, that is all; and when dilatation is desired, then plugging may be indicated or necessary. The speaker said that his old teacher, Dr. Reamy, used to insist upon the danger of a clot within the womb as a cause of hemorrhage after labor. "Turn out the clot, gentlemen, and hemorrhage will stop," is what he had often heard him say. A clot, sealing the cervix or upper portion of the vagina, will not prevent hemorrhage in this region, nor under this condition, any more than elsewhere. It will increase the flow, though it may not be noticeable; and who will deny that a concealed hemorrhage is not the worst of all? In reply to the criticism of leaving his patient, he said he did not go beyond calling distance, and that he was ready and near enough to respond at a moment's notice. He admitted that the child might have died from the extensive detachment of the placenta, but he would ask Dr. Taylor how he would manage to deliver a child alive under such circumstances without correspondingly increasing the risk to the life of the mother.

In conclusion, he stated that he was opposed to the tampon on general principles, excepting for the purpose of hastening dilatation of the os.

Dr. Reamy replied that the previous speaker forgot that his recommendation to turn out the clot applied not to the hemorrhage of placenta previa, but to post-partum hemorrhage.

Dr. Cleveland remarked that one important point in the artificial separation of the placenta had not been mentioned. It was urged by one of the gentlemen that the presence of the tampon might cause septicemia; it occurred to the speaker that a forcible tearing loose of the border of the placenta by means of the finger is more liable to cause septicemia by opening up a raw surface for the absorption of septic matter than would the judicious use of the tampon.

Dr. White said: The cause of bleeding is generally understood to be the contraction of the uterus; it is not, however, because there is forcible separation due directly to these contractions, but the lower segment of the uterus, below Bandl's ring, to which the placenta is partly attached, takes no active part in the contractions; this is put on the stretch and gradually becomes thinner, so that the marginal attachment is loosened, or sometimes the placenta becomes torn.

Morphia can hardly be called radical treatment, but only palliative; it stops bleeding by arresting uterine action. It has been asserted that the tampon cannot control hemorrhage; or if it does,
it will begin afresh as soon as the pressure is relieved by the os becoming more dilated.

The tampon is used for promoting dilatation and also for the arrest of hemorrhage; it acts mechanically, not always or alone by direct pressure on the bleeding surface. When well applied, it compresses the margin of the placenta against the wall of the uterus, or at least prevents all exit of the blood into the vagina, the remaining attachments of the placenta preventing its free exit into the cavity of the uterus, within the pouch or sac thus formed; the pressure soon becomes so great that bleeding is stopped, and coagulation takes place, not only in the sac, but in the bleeding vessels themselves; the thrombi thus formed in the vessels prevent continuation of the hemorrhage from these vessels; after the os is more dilated, of course, new surfaces can be detached and fresh hemorrhage arise. The tampon should not be used when the os is well dilated, but delivery should be accomplished as soon as possible.

Dr. Reamy said that as this subject had been discussed in this Society several times before, he would not make any extensive remarks, but he regretted that he had to take issue with the treatment of Dr. Zinke in one of his cases. If it was intended to carry out the method advocated by Robert Barnes, it was carried out to a degree that this gentleman would certainly censure. He could not conceive how so skillful an obstetrician as Dr. Z. could leave a case in the ninth month, with the os dilated to such a degree, after the placenta was separated. This practice was too dangerous. At any rate the child must certainly be born dead. At this time the attendant should remain with his case, and deliver her as speedily as possible. If the speaker were called to such a case in the eighth month, he would remain there ready to deliver her.

The objection to the tampon that it will not arrest hemorrhage is true when the vaginal plug only is meant, but it must be inserted into the cervix, otherwise it is of no use. It need not extend up so far as to the bleeding surface, but it should enter the cervix as far as possible. The best form is the hydrostatic dilator, but other material, as the partially unrolled bandage, may also be used, provided it be removed in due time. No tampon should under such circumstances be left in more than three hours for fear of sepsis.

The object of the tampon is twofold: to arrest hemorrhage and promote dilatation. It is well that hemorrhage begins as soon as the os internum begins to dilate, but there is no objection to further dilatation by means of the tampon, because as the placenta becomes detached it enables us to reach a foot and to bring down a foot, which with the leg will form the best tampon imaginable. Therefore the hydrostatic bag, and the two-finger method, etc., will all be useful at the proper time, but when the period comes when turning is possible, this latter method is more secure. For these reasons the speaker believed that the old central idea in controlling hemorrhage and effecting dilatation by means of the properly applied tampon would still prevail. He would of course not turn unless the urgency of symptom demanded, but he would deliver the woman before leaving her.

In referring to the cause of placenta previa, he was of the opinion that many of these cases did not depend on disease of the uterus and could perhaps be explained in another way. He had reason to believe that persons not wanting children would defer inter-
course to the fifteenth to sixteenth day post menses, when the ovum might slip down and become impregnated in the lower zone of the uterus. Of course, every one would admit that impregnation in the cervix proper could not occur on account of the absence of the decidual membrane in this region.

Dr. W. H. Taylor stated that his views coincided exactly with those expressed by Dr. Reamy in every particular. He regretted that he had also to indorse the condemnation of the method pursued by one of the first speakers. The tampon will arrest hemorrhage if the latter be of a reasonable degree, but when the os is dilated to a diameter of two and one-half inches, its time for usefulness is past, because at this time bipolar version can be performed. He would especially emphasize the utility of the leg as a most effective tampon. Barnes aptly says, "The safety of the mother is the safety of the child." Formerly the mother’s safety was almost alone taken into consideration; for example, Simpson’s method of tearing through the placenta will destroy the child’s life. The present view is, however, to consider the safety of both mother and child. He would emphasize another point, namely, never to leave a patient, but to remain within call. He would go even further than this by recommending the induction of labor if the patient was near the normal end of her pregnancy. He was strongly impressed with the absolute necessity of such procedure by the unfortunate issue of a case seen by him some years ago. A lady had bled a little during the night; after that she bled no more nor during the following day. The attendant called between five and six o’clock in the afternoon, and still no hemorrhage had occurred; again at midnight, and still there was no bleeding. Shortly after that a sudden hemorrhage occurred, a neighboring physician was called in, who stayed one hour with the patient. When the speaker arrived he found her in a dying condition.

The danger of delay was illustrated in several other cases. In one instance he was sent for to see a case of placenta previa at a distance of sixteen miles. When he arrived, which took several hours, the patient died of hemorrhage within an hour after he got there, although delivered of a living child.

Dr. Isham said it would be interesting to learn how many women really die from hemorrhage during labor or miscarriage. Physiologists say that even after cutting the main artery only forty per cent of the blood will flow out.

Dr. Taylor replied that physiologists, quoting the observations of Kussmaul and Tenner, will also state that loss of blood will produce convulsions, yet numerous instances of death from hemorrhage have occurred without having been preceded by convulsions. This theory is therefore wrong.

Dr. McComas added that he had never seen convulsions accompany death from hemorrhage on the battlefield.

Dr. Wenning said the danger lies not alone in the sudden loss of blood, but in the repeated small losses, which will so debilitate the patient that death from shock may take place at any time. A woman is therefore in constant danger, although the individual amount may be small. There is no telling when the last fatal amount will be spent.

Dr. Hall could not understand, when the os of Dr. Zinke’s patient was dilated to two and a half inches, why he did not deliver her. He could not conceive of any possibility of a contra-indication against delivery at this time, because every woman is in ab-
solute danger as long as she is not delivered. He would feel as if he had not performed his duty, if he had allowed her to remain undelivered.

Dr. G. S. Mitchell said that the danger of death from sepsis due to the presence of a tampon is slight in comparison to that of hemorrhage in placenta previa. An experienced and distinguished obstetrician not long ago stated, in a discussion in the Cincinnati Academy of Medicine, that he even used an ordinary kitchen-sponge, well lathered, as a tampon; yet he never lost a patient from hemorrhage or septicemia in placenta previa. The speaker would not be understood as indorsing this utter disregard to antisepsis in the use of the tampon, but cited it only in illustration that this fear of sepsis ought not to deter us from taking active means against the greater danger of death from hemorrhage.

Dr. Stanton, in concluding the discussion, said he had never lost a mother from placenta previa, and also most of the children remained alive. Turning should be preferred to the tampon when the os is dilated, because at this time there is no necessity for the use of the tampon. The forcible separation of the placenta is always dangerous. It is true that nature does the same thing, but contraction immediately follows, whilst the forcible separation is dangerous practice. The tampon is only to be used when the time is not yet at hand for speedy delivery. Up to the time for version it is the only reliable means, because it presses the uterus firmly against the placenta from without, just as the limb of a child does from within when version is performed. He therefore agreed with Drs. Reamy and Taylor.

He did not regard the morphine treatment correct, because labor should rather be encouraged, not arrested.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, January 2d, 1889.

John Williams, M.D., President, in the Chair.

METHODS OF CRANIOTOMY.

A paper bearing this title was read by Dr. Archibald Donald, Honorary Surgeon to St. Mary's Hospital for Women, Manchester. The discussion of the relative merits of craniotomy and Cesarean section is avoided. It is pointed out that it is of importance still further to improve the methods of craniotomy, since there are certain cases in which the operation is indicated and will continue to be performed even by those holding the most advanced views in regard to Cesarean section; for example:

1. When forceps has been tried for a long time without effect, or when podalic version has been performed and the head cannot be extricated.
2. When there is certainty or great probability that the child is dead.

3. When the condition of the mother is such as would cause Cesarean section to be almost certainly fatal.

4. In certain cases of deformity of the fetus.

A table of eighteen cases of craniotomy is appended, and in each case full details are given of the indications for the operation, the method adopted, and the subsequent history of the patient.

Remarks are then made on the method of craniotomy to be preferred: (1) in the less marked degrees of pelvic contraction; (2) in cases in which the contraction is considerable.

In the first class of cases the method to be preferred depends greatly on the nature of previous attempts at delivery. If the axis traction forceps has been used to the limits of safety and the head does not come through, the vertex may be perforated without removing the forceps, and the forceps used as a tractor after a firm grasp of the head has been obtained, by turning the screw as far as possible.

The method recommended in the more severe degrees of contraction consists in (1) podalic version and extraction of the body, (2) perforation through the roof of the mouth, (3) cephalotripsy of the after-coming head, and (4) extraction of head by means of cephalotribe, or by traction on the body and lower jaw combined with supra-pubic pressure.

The advantages of this method are as follows:

1. The base of the skull is effectually broken up.
2. The head is well fixed during perforation and crushing.
3. The position of the head is easily altered, thus allowing the cephalotribe to be applied in different directions or the head to be brought down with its crushed diameter in the smallest diameter of the pelvis.
4. The collapse and moulding of the head are often brought about readily by combined traction on the jaw and body of the child and supra-pubic pressure.

The difficulties of this method are discussed under the following heads: Difficulty (1) in the preliminary version; (2) in extracting the body; (3) in perforating and crushing the head.

Dr. Champneys was struck by the large number of craniotomies in Dr. Donald's tables; no less than eleven being entered under the date 1886. The proportion of women in London who required perforation was probably much less. The tables gave details which fully justified craniotomy; some hygienic reason must account for the frequency of narrow pelves in Manchester. He asked Dr. Donald for information as to the most common cause of deformity in his cases. From the description of the pelves, it was, Dr. Champneys thought, most probably rickets. The statement that the field of the forceps had been enlarged by the introduction of axis-traction was striking. Granting the ad-
vantages of axis-traction, Dr. Champneys did not think that it had yet been proved that the dimensions of possible birth-alive at term by forceps had been extended by its introduction in the hands of skilled operators. In one of Dr. Donald's cases, where the pelvis was generally contracted and flattened, the conjugate only two and three-eighths inches, and delivery very difficult, Cesarean section appeared preferable to craniotomy. Possibly, however, Dr. Donald was compelled to choose the latter operation, not having conducted the case from the onset. In respect to the action of the cephalotribe, it was generally taught that compression in the transverse diameter produced expansion in the antero-posterior diameter. Dr. Champneys believed that it had been shown that no such compensatory expansion took place, but that the change in the head consisted in its elongation vertically, just as in traction by craniotomy-forceps. The result of Dr. Donald's practical paper would be, that the hitherto unpopular perforation of the after-coming head would require a new trial. If approved, the procedure of forceps in the first instance, version in the second, and perforation of the after-coming head in the third, might take the place of our present practice in cases of slight contraction.

Dr. Galabin agreed with Dr. Donald in preferring the cephalotribe to all other forms of extractors after craniotomy. In all cases, easy or difficult, it was available. The pieces of bone remained covered by the scalp, and did not tend to protrude so much as when the craniotomy-forceps was used. He did not accept the view that the after-coming head was preferable for perforation and extraction. Dr. Donald had hardly made fair or effectual trial of the cephalotribe, as used in the best way on the fore-coming head. In all the cases recorded by him, the fore-coming head was extracted by cranioclasm and removal of pieces of bone—a troublesome and tedious process very seldom necessary. It was only required to get a central grasp with the cephalotribe by passing the fingers high up above the brim, to guide the blades. When this had once been done, no repeated crushings were required. The diameter which was grasped could be reduced to one inch and a half, and the opposite diameter was not appreciably enlarged. The crushed head could thus be brought through any brim through which we could reasonably expect to extract the body without injury; and it was of no consequence that the base of the skull was only tilted, and not broken up. The after-coming head might be easily perforated and extracted in ordinary cases; but in difficult cases the operation was less favorable than that on the fore-coming head, as a large body might render the adjustment of the blades more difficult. The two most difficult cases of extraction he had ever met with had occurred after version, the difficulty commencing when the child's pelvis began to enter its mother's. In one case this occurred although the mother's pelvis had a conjugate of two and three-quarters inches; version had been performed in order to give the child a chance, as the mother had only been married seven months, and declared that she could not be pregnant for more than that time.

Dr. Herman considered that the advantages of the axis-traction forceps had been exaggerated. This was admitted even in Paris, the birthplace of that instrument. Craniotomy, done at the proper time, need not exceed normal labors in mortality: Dr. Donald had lost no cases. Dr. Herman approved of Dr. Donald's plan of measuring the pelvis with the whole hand introduced into
the vagina after delivery. Mr. Wallace Johnson had fully described this practice in 1769. The comparative ease of cephalotripsy and cranioclasm largely depended on the operator's relative experience with each of these operations. Dr. Herman had used the cephalotribe for both the fore-coming and after-coming head; in the latter condition no advantages balanced the risk of preliminary version. He always perforated below the occiput. He had not found greater difficulty in the extraction of the fore-coming than in that of the after-coming head. A good cephalotribe, such as Braxton Hicks', would not slip if applied to the greater diameter of the head. In extracting, he crushed well the fore-coming head, and rotated it so that the crushed part held in the cephalotribe should come to lie in the most contracted diameter of the pelvis. When the neck offered resistance from the position of the shoulders, it could be overcome by external pressure on the shoulders, so as to push them in the required direction. This rotation of the head after crushing was an essential step in the operation. Dr. Donald had not speculated as to the cause of the pelvic deformity in his cases. Dr. Herman thought that when there was not clear evidence in the skeleton of the existence of rickets, it was better to refrain from a diagnosis as to the cause of the change in the bones than to infer rickets merely from slight peculiarities in the shape of the pelvis, as was sometimes done.

Dr. Gervis thought that Dr. Donald's suggestion of perforating the head after the axis-traction forceps was applied, and then using the forceps as tractors to complete the delivery in lesser cases of contraction, was worthy of further trial; as was his more important proposal to perforate the after-coming head through the floor of the mouth after version. Dr. Gervis had not found version in contracted pelvis so difficult as had been suggested. In many cases of flat pelvis, with a conjugate of three inches or even a little more, he had easily completed delivery by version after perforation through the cranial vault in the ordinary way, taking the greatest care that there were no protruding or loose spiculae of bone. He agreed with Drs. Galabin and Herman as to the value of the cephalotribe. If care were taken to pass the tips of the blades well above the base, he had rarely found any trouble through slipping of the instrument.

Dr. Routh thought that should there be any difficulty in perforation, or in the use of the cephalotribe in footling cases, or where turning had been performed, through great size of the child's body, the difficulty could be overcome by a method which he had seen practised many years ago in Vienna with great success. Decapitation was performed, close to the foramen magnum, by means of large, curved decapitating scissors, bent at an obtuse angle; their handles were long, like bone forceps; thus they were powerful, readily effecting the object in view. Either perforation or cephalotripsy could then be easily effected; the head was steadied by pressure from above, assisted by uterine contractions. Dr. Routh had witnessed a demonstration made by Dr. Barnes before the Society. Dr. Barnes cut through a child's head in different directions by means of an écraseur-wire. The tightening of the wire turned in all spiculae of bone, reducing to a minimum all danger of injury to soft parts. Dr. Routh quite understood that pelvic deformity was far more frequent in Lancashire than in London, owing to early hard work in factories and unhealthy sur-
roundings. Hence perforation was much oftener needed in that county.

Dr. W. Duncan having made some observations, Dr. Horrocks said that he had found the cephalotribe a splendid instrument, answering every purpose. He had never been obliged to resort to cranioclastism, and had not seen that operation performed. Perforation of the fore-coming head was an advantage in hydrocephalus, the head presenting. In Dr. Donald's cases, when the pelvis was only slightly narrowed, perforation of the fore-coming head had been performed and delivery successfully accomplished. Version and perforation of the after-coming head had only been undertaken in cases where the narrowing was considerable. Dr. Horrocks considered that version could not be performed without great danger in some cases where labor had been going on for a long time. In two which he mentioned, both mothers and children were lost. The advantage of perforating and crushing the after-coming head was that it could be held firmly, and so a good grip could be obtained. For it must be admitted that, in applying the cephalotribe to the fore-coming head, it not unfrequently slipped off the globe of the skull as it was being screwed up tightly.

Dr. Routh wished to explain, in speaking of the decapitating scissors, that he had not made his observations on theory, but from experience. The decapitated head could be perfectly well steadied in the manner he had indicated.

Dr. Cullingworth thought that perforation of the after-coming head, as advocated by Dr. Donald, deserved a fair trial in suitable cases. In respect to the number of cases requiring craniotomy, Dr. Cullingworth said that the Maternity Department in connection with St. Mary's Hospital, Manchester, was entirely conducted at the patients' homes by a staff of trained midwives. About three thousand cases were attended annually. The resident obstetric assistant was sent for in all difficult and dangerous cases; he held office for three years. The cases tabulated in this paper occurred during Dr. Donald's tenure of office. The hospital was the oldest and, till recently, the only lying-in charity of any importance in Manchester. Its area included the greater part of both Manchester and Salford, of which the combined population exceeded half a million.

Dr. W. S. A. Griffith described a method often employed in Queen Charlotte's Hospital, of delivery by the cranioclast in cases of considerable contraction. After perforation the head was seized by a powerful cranioclast, and, while traction was made, rotation was also slowly performed, the object being that the base of the skull was broken up into fragments in a way that no cephalotribe could accomplish, the crushing of the base being caused by its forcible rotation in the contracted brim, and apparently without injury to the soft parts of the mother. He used both cephalotribe and cranioclast, and believed both those instruments to be invaluable.

In reply to these observations on his paper, Dr. Donald believed that the percentage of craniotomy in Manchester was not so high as Dr. Champneys had inferred. Sixteen of the cases recorded in the table had occurred in the extern maternity department of St. Mary's Hospital, and in two of these cases the operation had been performed in a perfectly normal pelvis on a dead or non-viable fetus. During the period of time over which these cases extended, there had occurred in the extern department of the hospital almost
exactly ten thousand confinements. The proportion of cases of craniotomy for deformed pelvis was therefore about one in seven hundred labors—not large considering that the patients were very poor. He maintained from personal experience that delivery had been brought about by axis-traction forceps with comparative ease in many cases in which the ordinary forceps had failed in his hands, and in which craniotomy seemed to be the only resource. In reference to one case in the tables, he did not perform version with a view of saving the child, but, believing craniotomy to be inevitable, he preferred to do it on the after-coming head. He agreed with Dr. Champneys in thinking that Cesarean section was the better treatment in this case. He found after the patient's second confinement that she could never be delivered of a viable child per vias naturales. Though he preferred the cephalotribe to the cranioclast, he did not think that in cases of extreme pelvic deformity the cephalotribe applied to the fore-coming head was perfectly satisfactory. It did sometimes slip when used as a tractor. This was due, Dr. Donald believed, to tilting of the base of the skull. Again, rotation of the fore-coming head by means of the cephalotribe was often very difficult. The body of the child had never been much in the way in the cases where he had crushed the after-coming head. If the legs and trunk were drawn well up towards the mother's abdomen, there was no difficulty in passing the whole hand, or at least the four fingers, behind the child into the pelvic cavity, which, in the flattened pelvis, was relatively large. It was a positive advantage to be able to apply traction to the body, so as to steady the head in perforating and crushing, and to assist in extracting. He had in one case adopted the method advocated by Drs. Gervis and William Duncan, performing version after perforating the vertex. Dr. Donald objected to this method because the base of the skull was undiminished, and also because splinters of bone and portions of connective tissue and brain-substance were liable to be left inside the uterus. He had only met with two cases in his experience in which, after deep anesthesia, it seemed dangerous to attempt version. Treatment, however, must vary according to the special features of each case. If the lower segment of the uterus was found to be thinned out and retracted, the vertex should be perforated in preference to the advocated method.

Annual Meeting, Wednesday, February 6th, 1889.

JOHN WILLIAMS, M.D., President, in the Chair.

A full account of a case of Porro's operation was read by Dr. GALABIN. The patient was 28 years old and pregnant for the first time. Labor came on on September 14th, 1886, about a week after term according to the usual calculation. When admitted into Guy's Hospital, the labor pains had already lasted for forty-eight hours. The liquor amnii had escaped about twenty-four hours before her admission. Unsuccessful attempts had been made to apply the long forceps. The patient was short, her tibiae were curved. The external conjugate diameter was six inches and three-quarters; the diagonal conjugate two inches and five-eighths. The walls of the cervix were extremely thick; the available true
conjugate was but one inch and a half. The cervix could not be pushed up above the brim. The uterus was in a condition of continuous action. The urine was highly albuminous and contained casts and blood-corpuscles. Dr. Galabin determined on Cesarean section, and preferred Porro's operation to Sänger's, as the uterus might have been bruised by the attempts to introduce the forceps. The fetal heart was audible, and the extreme narrowness of the pelvis was not favorable for craniotomy. Porro's operation was performed on September 17th, 1886. The placenta lay on the posterior wall. To insure a full retraction of the uterus, the patient was, at first, not kept very profoundly under the influence of the anesthetic. Prolapse of intestine occurred as the child was being extracted by the leg. After this incident complete anesthesia was induced. The uterine stump was secured by the wire of a Koeberlé's serre-neud and two pins. No sutures were passed through the peritoneum of the stump. Carboic spray was used. The child was saved and was still alive. During convalescence, although an abscess formed below the patient's right nipple and ulcers in the axilla, the amount of albumin in the urine diminished considerably. By a year and a half after operation the albuminuria had quite disappeared. Dyspareunia now existed, partly through tenderness of the vaginal outlet, partly through pressure of the vaginal wall against the very prominent sacrum during connection. Dr. Galabin insisted that it was only on account of the prolonged labor and possibly bruised condition of the uterus that he preferred Porro's to Sänger's operation. He reviewed the history of the latter procedure, and noted that its success was very marked in the experience of those who specially advocated it and practised it under favorable conditions. Sänger's operation was probably the best, even when labor was already protracted. Dr. Galabin did not consider that as yet either Sänger's or Porro's operation should be recommended to the family practitioner as an alternative to craniotomy, when the pelvis exceeded two inches and a half in conjugate diameter, unless there were marked transverse contraction as well. When the pelvis was narrower, Porro's operation was preferable, for the practitioner, to Sänger's. India-rubber tubing and a knitting-needle would serve in the absence of a serre-neud with the special pins, as Hegar, Kaltenbach, and Tait had already shown. Dr. Galabin concluded with observations on the placental site. In the uterus in his case the placenta did not remain entirely adherent, but was partly detached. The detachment was at the lower border. This fact favored the view that the normal detachment of the placenta was due partly to detentation by uterine action in addition to shrinking of the placental site.

Dr. Matthews Duncan, agreeing with the principles of Dr. Galabin's paper, thought, nevertheless, that it was not advisable to introduce into questions of treatment variations according to
the grade of the practitioner. Craniotomy still held its place, because it was safer to the mother than any form of Cesarean section. But still further reduction of the mortality after that operation would probably be attained, thanks to the exertions of Sänger and Leopold and the perfection of Porro's procedure. Then craniotomy might be entirely banished. Dr. Duncan deprecated Leopold's principle of introducing the wishes and opinions of the patient and her friends as factors in determining what operation should be performed. The surgeon must decide what operation should be done and how it should be done. The patient may adopt or refuse the advice, but cannot give or modify it. Dr. Duncan believed that his friend Dr. Leopold would soon be ready to dispense with faulty arguments about patients' advice, and would be able to show that Cesarean section was more successful, in respect to maternal mortality, than craniotomy.

Dr. Herman agreed with Drs. Galabin and Matthews Duncan as to the far greater safety, for the mother, of craniotomy. In order to make a fair comparison, the mortality of that operation should be estimated from series of cases operated upon under the most favorable circumstances; for Dr. Galabin had estimated the mortality of Cesarean section under such conditions, the statistics being derived from hospitals in which it had been brought to the greatest perfection. Dr. Herman turned attention to the results of craniotomy in a Berlin hospital, where it was found that, after craniotomy in the slighter degrees of pelvic contraction, the mortality was greater than in cases where the deformity was most marked. In the former kind of case the operation was often done late, when the patient was exhausted and perhaps locally injured by attempts to deliver the child by the natural passages. When the pelvic contraction was great, the impossibility of delivering the child alive was recognized early in labor; craniotomy was at once done by an expert.

After some remarks by Dr. Braxton Hicks, Dr. Aust-Lawrence (Clifton) noted the importance of obstetric physicians performing abdominal operations generally, as they were in the best position to meet the emergency which had been so successfully faced by Dr. Galabin. Dr. Lawrence laid stress on the early and thorough examination of the pelvis, so that extreme contraction, where forceps would be useless and dangerous, might be recognized in time. Craniotomy or its alternatives might then be performed with the best chances of success.

Dr. Galabin, in reply, remarked that the evidence of lesser mortality in the more serious cases for which craniotomy was performed confirmed his own observations as to the moral aspect of the advocacy of operations; he thought that every man should do what he thought best. Notwithstanding, however, any theoretical principle to the contrary, circumstances in regard to operator and to place made a great practical difference in respect to serious operations. Experts in a difficult operation generally performed it in a well-appointed hospital; the practitioner, called upon to perform that operation, was never so favorably placed. He had often to operate in a small and perhaps insanitary house, with no skilled assistants. Hence many practitioners, very wisely in Dr. Galabin's opinion, sent bad cases to hospital. Dr. Duncan's principle that the mother's life was of paramount importance was quite sound. Where, however, the risk of the two operations appeared
to be almost evenly balanced. Dr. Galabin did think that a certain regard should be paid to the life of the child, and even that, in such a case, the wishes of the mother and her husband should be taken somewhat into account.

The business of the annual meeting was then transacted.

President’s Address.—The President delivered the annual address. He referred briefly to the life and work of each of those Fellows who had died in the course of the year. They included Dr. J. Stuart Hutton, Mr. Walter J. Bryant, Dr. Hugh Miller, Dr. Arthur Creswell Rich, Mr. J. Brickwell, Mr. Isaac Harrison, Mr. W. Nicholson Price, Dr. J. Chalmers, Dr. Edwin Jackson, Mr. Philip Addis, Mr. T. Boyle, and Mr. J. F. Eyeley. The President then gave a sketch of the work done by the Society in 1888. In vacating the chair, the President expressed his assurance that the dignity and the interests of the Society would be thoroughly maintained by his successor, Dr. Galabin.

Dr. J. Matthews Duncan moved and Dr. Champneys seconded a resolution that a vote of thanks be given to the outgoing President, Dr. John Williams, and that his address be published in the Transactions. This resolution was carried unanimously.

The Treasurer.—Dr. Playfair moved a vote of thanks to the retiring Treasurer, Dr. Galabin. This was seconded by Dr. Aust-Lawrence, and carried unanimously.

The Retiring Officers.—A vote of thanks to the retiring Vice-Presidents and other members of council was proposed by Dr. Herman, seconded by Dr. Horrocks, and carried unanimously.

ABSTRACTS.

1. Josef Steinbach: The Sterility of Marriage: Its Causes and Treatment (Klin. Zeit. v. Streitfragen, II., 3, 4):—Sterility is really an indivisible complex subject; strictly speaking, it should mean an organic deficiency which prevents a woman from begetting offspring. The subject has been divided so as to include an absolute and a relative sterility; this classification is simply a help, not always reaching the core of the matter. The most practical classification is one based upon etiology, into various distinct forms; accordingly we recognize sterility due to (1) anatomical, (2) psycho-neurotic, (3) constitutional, (4) mechanical, and (5) pathological-local causes. Sterility is an obstructed power of procreation. The ability to bring about fecundation is granted the organism by a genital apparatus with which the procreating act is accomplished. The semen is a mixture of secretions of various origin, which contains bodies the union of which with the ovules of the female is necessary for fecundation. These bodies are the spermatozoa; the latter are endowed with the property of locomotion, which power is given them by their form, consisting of a blunted triangular head with long, filamentous attachment, the pendulous movements of which in fluid stroma
induce their progression; their chief constituent is albumen; agents which effect albuminous substances influence the functional activity of the spermatozoa—heat, concentrated acids, and probably concentrated alkalies. They have a tenacious hold upon life, remaining active after long sojourning in their natural reservoirs. The ovule is produced in the ovaries, which in their fundamental character are complete during intra-uterine existence. Their functional character begins to appear at periods after birth, varying with climate, race, physical and psychical circumstances. The maturing of the follicular element of the ovaries occurs with puberty, and is marked by periodically recurring congestion, the object of which is the liberation of the ripened egg. This process is called ovulation; the ovules set free enter the uterine cavity and are discharged, comprising the phenomena of menstruation. Menstruation, then, is ovulation which has become visible.

**Anatomical Sterility.**—If the physiological events which attend the development of the sexual organs are in any way interfered with or arrested, the conditions essential for fecundation do not obtain, and we have sterility as a result. If the ducts of Müller, after having assumed their position in the primitive kidney, suffer hindrances, a rudiment is formed instead of the normal uterus, which may be felt as a simple thickening at the posterior ovule or the bladder, or it may be marked by broad bands at the surface. Within the broad ligaments bodies may be felt which represent a pair of non-metamorphosed ducts of Müller in their original position; when these bodies lie close together and taper from above downward, we have the so-called rudimentary double-horned uterus. In none of these cases is there a canal; the rudiment is impervious. Even if the other accessories of the genitals are not deformed, there can be no question of conception. Occasionally in robust persons, otherwise well developed, this condition is not recognized, and the subjects live in active sexual intercourse in advanced years; there are various imitations of catamenia, such as molimina, neuralgic ovaritis, hysterical outbursts attending this condition. The uterus may have normal configuration, but be destitute of muscular structure, forming the membranous uterus; here the ovaries are present, menstruation takes place, and, as cervix and vagina are generally ill developed, hematometra occur. A deformity may exist in the cervix between the external os and the vaginal portion, or the whole cervix, being imperforate, often is associated with deformity at the cervical portion of the vagina, where the folds have grown together; the cervix may fall altogether or be a mere muscular rudiment; it may be developed, but have no opening into the uterine cavity, or the internal os may be present in a developed cervix, the external one being absent; or both ostia may be absent, the intervening portion of the cervix being patent; or, finally, the cervix may be imperforate throughout its whole extent. If functionating ovaries exist with these cases of partial or total atresia, hematometra and sterility follow, the latter persisting after restoration of the canal. All the before-mentioned impediments to fertility take root in embryonic life—they are congenital. Among the types of deficient development originating during extra-uterine life is the infantile uterus, in which the organ is of diminished size in all its proportions, measuring but four to five cm.; the fetal uterus, an undersized organ, in which the cervix has preserved the disproportioned size to the body which it maintained during fetal existence; the congenital atrophic uterus, resembling the infantile uterus, except that
its walls are thin, like those of the membranous variety. The more developed the uterus, the more developed will its accessories be. In many cases, however, the ovaries or tubes are either absent or deformed; the vagina may show anomalies shared by the external genitals. Malformations of the uterus due to fetal inflammatory processes may be included under this heading.

Psycho-neurotic Sterility.—In cases of sterility due to psycho-neurotic influences, no anatomical or other defects are found. Suddenly suppression of the germinating power may go hand in hand with suppression of the menses; protracted psychical or nervous disturbances may permanently destroy menstruation and ovulation, and, consequently, the procreating power. The feelings awakened in most females similar to the sexual appetite of man are due to reflexes from the central nervous system; in some these feelings are wanting, explainable by the same causes. Lack of sexual appetite may be competent to produce sterility. Vaginismus is to be classed as among the causes under this heading which may produce sterility; it is often due to lesions of the genital tract, but many cases are clearly of reflex origin; it may be so intense and distressing as to entirely exclude the entrance of the penis; it may cause sterility, but requires the co-operation of extraneous causes; a woman the subject of vaginismus, mated to a man sexually weak, may become totally unfit for conception by the irritating influence of the ineffectual coitus. So-called "spasmodic dysmenorrhea" may, theoretically, cause sterility. Schaute says that disproportional quantities or actual transformation of the excreted blood in retarded exit may induce certain reflex spasms of the uterus. Chemical changes occurring in the stagnant blood may cause sterility by destroying the spermatozoa; a coating of serum of acid reaction in the uterine cavity may be antagonistic to fecundation even in the intermenstrual periods. Sterility associated with cervical stenosis may be due to the same cause. Psychical influences may paralyze the circular muscular fibres of the tubes, and so hinder the progression of the germinating elements as to cause sterility; exudative process around the tubes may have a similar effect.

Constitutional Sterility.—Under this heading are included cases in which the elements of reproduction are implicated in congenital or acquired pathological processes which affect the general system. Age is one of the first of these. Chlorosis attending development is another; in this condition it is probable that the excess of nutrient is used up in the plastic growth of the sexual organs, leaving a deficiency for the periodic congestion of the uterus and ovaries; without congestion the follicles cannot attain maturity. Two forms of chlorosis are to be considered: One, which is dependent upon a uniform diminution in the calibre of the blood-vessels; such a condition may retard the general growth and the growth of the sexual organs, thus leading to sterility. Another, chlorosis due to syphilis. It is likely that the syphilitic virus penetrates the follicles and attacks the ovaules; other infectious processes probably pursue a similar course. There is a class of women who present no assignable cause for their sterile condition; an attack of scarlatina or variola during youth, hereditary taint, or later acquired syphilis may be at the root of the evil in such cases. Scrofula is frequently associated with syphilis. Besides the glandular troubles incident to this affection in childhood, other organs may be affected. Tuberculosis may cause sterility; the enfeeblement and concurrent fever may interrupt all the functions; when
the tubercular affection occurs primarily in the organs of generation, which happens oftener than is supposed, sterility will result. Diabetes is another cause; probably because the albumen of the blood is monopolized in the excessive sugar formation, thus failing to provide for the most important constituent of the spermatozoa; atrophic changes in the ovaries and uterus are observed in this disease. Bright's disease and alcoholism are further causes; the latter may produce cirrhotic changes in the generating organs similar to those which occur in the liver. Obesity, when developed rapidly and associated with fatty degeneration, will produce sterility; cures for this trouble frequently restore the lost function in cases where menstruation has not been suspended.

Mechanical Sterility.—The clitoris may be of unusually large size, and pushed forward by a deformed posterior commissure of the labia majora, so as to almost close the vulvar aperture, or atresia of the vulva may exist without abnormal growth of the clitoris; such results sometimes follow acute infectious diseases in childhood. Imperfectly developed clitoris, by interference with function in the production of orgasm, is a cause of sterility. The external genitals become diseased in adult life and tend to cause sterility: elephantiasis laborum, excessively great deposition of fatty tissue in the vulva, etc. Abnormalities of the hymen may prevent conception; the distance between the hymen and cervix sometimes has an influence. The hymen may indirectly cause sterility by the reflex psychical influences of various irritating lesions induced by self-abuse, cohabitation, or unfavorable cicatrization after rupture. Malformations of the vagina, frequently associated with similar states in the other genitals, may interfere with conception; stenosis from various causes, depending upon the degree of facility with which the penis may enter; conception may be prevented by new growths in a fully developed vagina by barring the entrance of spermatozoa. Especially frequent causes are cystic tumors; if in the cervix or uterus, they can, apart from their effect upon the uterine mucous membrane and muscular tissue, protrude into the vagina and close the os. Vesico-vaginal and vesico-rectal fistules may prevent conception, especially when associated with other pathological processes (ulcerative stenosis of the cervix, peri-oophoritis, etc.), as they lead to menstrual anomalies or prevent coition; the dripping acid urine will alone produce sterility by destroying the spermatozoa or by flushing the vagina of semen. Deviations of the cervix must be a fruitful cause of sterility; the chances of fecundation are lessened by the increased distance between the penis and os which the spermatozoa must traverse; in conical elongation of the vagina the penis is said to pass aside and beyond it, and the semen is not ejaculated into the os; but S. thinks the narrowed lumen of the cervix in such conditions is the real barrier. If the cervix is imperfect or stenosed, conception is out of the question. S. gives the means of making the differential diagnosis between congenital and acquired total stenosis and stenosis of the external os. Diminutive size of the internal os and kinking at this situation, as well as versions of the uterus, are impediments to fecundation. The chances for the passage of the spermatozoa through the kinked isthmus are somewhat increased by previous labor, which to a certain extent relieves the narrowness. In nullipare the mucous membrane is so closely applied together that the spermatozoa cannot work their way through. Flexions of the uterus produce barrenness; it is probable that deviations, distortions, etc., of the tubes and ovaries may do likewise. The spermatozoa might
Abstracts.

effect an entrance immediately after the menstrual flow, as the latter somewhat corrects kinkings. Even with various complications the flexion is the fundamental source of non-fecundity. The position which the vaginal portion occupies is a more important factor than the contraction of the canal in moderate deviations of the uterus: in anteversion it is pressed against the posterior vaginal wall, in retroversion against the anterior wall; the degree of the deviation is more important than its direction: thus a retroflexion of less than 90° angle will be more likely to cause sterility than an anteflexion of 140°, as the angle in the former is the more acute. Lateral deviations and inversion of the uterus will cause sterility. Prolapse of the uterus, when complicated with intense grade of exudative inflammation, may cause sterility.

Pathological Local Sterility.—Cases where the reception of the fructifying element is prevented by acute or chronic material local changes. Although the vagina has no cylindrical epithelium, it is moistened with mucous glands which produce an acid secretion; the cervical secretion is alkaline, but as the vaginal secretion is less than that of the cervix and uterus, its acidity is partly if not wholly neutralized. When the chemical balance is disturbed, the vaginal secretion may be destructive to spermatozoa; associated with unfavorable sexual relationship—as, for instance, deficiency in the quantity of semen injected—the sterility so induced may become permanent; a copious vaginal discharge may wash the seminal fluid from the vagina; when hypersecretion takes place in the narrow cervix or uterus, the mucous membrane and glands are implicated sufficiently to cause sterility; metritis and endometritis may occur; the pent-up mucus may undergo chemical modifications which prevent conception, or relaxation of the uterine walls, with flexions, may occur. It has recently been shown that in many cases of catarrhal diseases of the genital tract the secretion is of infectious nature, and the associated sterility due to gonorrhea. Noeggerath's teachings with regard to gonorrhea in the female and its relation to sterility are reviewed by the author, and an explanation of the morphology and behavior of the gonocoeci of Neisser. Gonorrhea in women is not limited to the urethra; it is difficult of diagnosis, and must often be made by exclusion. S. has found that the staphylococcus pyogenes aureus frequently accompanies the gonococcus. Bumim describes the pathological action of the gonococcus as a superficial process, which, once in action, affords entrance for other pathogenic micro-organisms. It produces a superficial epithelial disease of purulent character; when associated with other micro-organisms, more deep-seated processes ensue. The vagina is supposed to escape infection, the os externum readily succumbing. The purulent catarrh and sequelae may produce complete plugging of the cervical canal and bar the entrance of spermatozoa. The extension of the gonorrheal inflammation will induce sterility by a variety of means: the fimbriae of the tubes may be sealed together by plastic adhesions and their erectileity destroyed; the uterine parenchyma may become affected; the mucous plugs in the cervix may undergo cystic degeneration; the columnar muscle may hypertrophy; the endometrium may undergo polypoid degeneration, and the uterus relax and become flexed. Cicatrical contractions and folds in the cervix, abscesses in the parametrium and perimetrium, salpingitis, perisalpingitis with perforation and circumscribed or diffused peritonitis, may all be caused by the conjoined action of the staphylococcus; in
milder cases, obliterating distortions and cicatrices take place in the tubes which prevent conception; purulent exudations in the anterior or posterior cul-de-sac or in the lateral ligament may induce, by their resorption, cicatricial shortenings, malformations, etc., in various portions of the genital tract. If the staphylococcus attacks the ovaries—as is likely in oophoritis and peri-oophoritis of gonorrhea—it may set up causes of sterility. When the epithelium of the uterus is deprived of its cilia by simple catarrhal or other process, fecundation cannot proceed. S. reduces the percentage of women subject to gonorrhea, by Noeggerath said to be ninety per cent, to about twenty-five per cent. When the endometrium is inflamed by micro-organisms, no part of the genital tract is safe. The meso-metrium may be gradually hypertrophied, making the uterus rigid and anemic. Chronic metritis is associated often with diseases of the uterine adnexa which may induce sterility. Atrophic changes occur in the uterus which prevent the retention and maturing of the ovule. Myomata, fibromata, and fibro-myomata, besides other new growths, may be local causes of sterility; their effect depends upon position. Subserous neoplasms in various situations are causes; they may produce occlusions which prevent the entrance of the spermatozoa or cause copious intermittent bleedings which wash away the semen; or they may produce denudation of the epithelium and prevent the formation of deciduæ. Carcinoma and sarcoma of the uterus may prevent conception. Catarrhal processes in the tubes may prove causes of sterility. Restricted involution of the uterus, where the epithelium is not regenerated, and where shreds of placenta, etc., remain behind, or where infection takes place which spreads to the tubes, will prevent conception; pyo-salpinx is also likely to do this. Among other constitutional infectious causes is tuberculosis, which chokes the tubes with its products. Growths outside the lumina of the tubes will have the same effect. Acute or chronic inflammation of the ovaries, and infection of these bodies by the gonococci or the staphylococcus, or other organisms due to puerperal fever, are all capable of producing sterility; the unilateral or bilateral character of inflammation or of new growths of the ovaries has an influence pro and con. Inflammation of the abdominal and pelvic peritoneum, para- and perimetritis, are all further etiological factors.

Treatment of Anatomical Sterility.—Thorough examination and positive diagnosis is the first requisite. With rudimentary uterus and partial or complete absence of the tubes or ovaries, or occlusion of same, nothing can be done; in robust patients with developed tubes and ovaries and menstrual function, distressing symptoms may be relieved, but not the sterility. In cases of membranous uterus, and in cases of partially or totally stenosed cervix, very little can be done; the same applies to the infantile, the fetal, the congenital atrophic, and all hyperplastic forms of the uterus. Where the hyperplastic changes in the uterus are moderate, its adnexa well developed, all things tending to heighten nutritive activity should be tried. Local treatment not encouraging, electricity may be tried. Sterility due to congenital obliquity of the uterus is hardly curable, but is rare.

Treatment of Psycho-neurotic Sterility.—Generally supposed to be due to suppression of the menses; etiology of the latter will indicate treatment. If temporary, cold douches to pelvis, hot sitz or foot baths, sinapisms, etc., should be tried, or direct means for influencing congestion, as uterine douches; a highly nutritious diet, combined, may be, with electricity, is of chief importance in both varieties. In dyspareunia, if due to some congen-
Treatments of Constitutional Sterility. — Prophylaxis comes first; watchfulness during adolescent period and before and during first labor; over-exertion, such as gymnastics, swimming, etc., and faulty positions at school during girlhood, should be avoided. With adults, patient lying abed after delivery must be insisted upon. Chlorosis is to be treated according to its cause; when idiopathic, increase in nutrition must be sought; medication should be eschewed, because of gastric disturbances; the springs containing easily digested quantities of iron and steel, potash and soda, are useful. Failures are of diagnostic value; in such cases the chlorosis is not idiopathic, but may be due to diminished vascular capacity or to the supervision upon the first affection of some constitutional disorder, as serofula or syphilis; these predominate the chlorosis, and the treatment must be addressed to them. Where sterility is produced by tuberculosis, it may be treated as a general disease; where primarily located in the genitals, it is not amenable to diagnosis or treatment. In diabetes or Bright's, appropriate dietetic regimen should be enforced; if alcoholism exists, the removal of the habit must be attempted; obesity associated with amenorrhea requires active local interference—intra-uterine pessaries, douching and sounding of the uterus, or leeching. Some cases do well at alkaline springs.

Treatment of Mechanical Sterility. — Defects and impedimentary growths at the external genitals must be surgically removed. Imperforate hymen should be incised; atresia or stenosis of the vagina must be operated upon if the rest of the organs are well developed; bloodless dilatation suffices in abnormally small, narrowed canals; in acquired cicatricial narrowing, dilatation must be very cautiously done. Tumors, vesico-vaginal and vesico-rectal fistulae, and double vagina call for the use of the knife; hypertrophy of the vaginal portion of the cervix calls for amputation; when conicity and narrowness of the cervix exist, dilatation if the narrowed canal is at fault, and amputation if both produce sterility, are indicated. The chances for conception after operation in cases of non-execavation of the uterus are meagre; with stenosis, uncomplicated with gonorrhea or malformations elsewhere, prognosis is favorable; dilatation by laminaria or tupelo tents should first be tried; these failing, dilators will have to be used, or dilatation with sounds. Hysterotomy must be performed when
Abstracts.

539

all these methods fail. The os externum can be widened by snipping it laterally with scissors. Discission, despite its abuses, is a valuable procedure; discission at the internal os is dangerous. Impediments at the os externum require uterine reposition. Artificial fecundation should only be done in the most extreme cases; it is not very encouraging in its results. Edes recommends, in ante- and retroflexions, that a pessary be introduced in the knee-elbow posture, and that coitus should immediately follow without change of the woman’s position.

Treatment of Pathological-Local Sterility.—Wherever the gonorrhreal nature of a secretion is suspected, active counteracting treatment should be at once begun. The whole genital tract must be irrigated with sublimate solutions when the uterus is implicated; a C. Braun uterine syringe is most convenient. Treatment of the tubes when they are infected, or of the ovaries, is impossible; we must try to limit the disease at its inception. If the acidity of the secretion produces sterility, irrigations with neutralizing fluids must be made; where the copiousness of the discharge washes away the seminal fluid, it must be controlled by astringents and antiseptics; where it is thick and tenacious, glycerin tampons will be useful. If all these methods and moderate curetting fail, iodoform gauze pencils can be used, or, these failing, denudation of the epithelium with a sharp cur, rette, followed by irrigation with strong carbolic solution. Villous endometritis, accompanied by hemorrhage, requires dilatation of the cervix followed by curetting. Chronic metritis and endometritis may be relieved by derivatives to overcome blood stasis; massage and resort to various springs are also useful. Curetting will also be a useful procedure where other methods fail. New growths should be removed, if possible, before the epithelium is so far destroyed as to prevent regeneration. Diseases of the tubes and of the ovaries afford little hope for successful treatment. Attempts must be made to heighten nutrition by medical, dietetic, and climatic agencies. Oophoritis due to perimetritis, or peri-óophoritis, may be relieved by treating its causes. When new growths in the ovaries produce sterility, nothing can be done; where but one is affected, and the use of the other interfered with, ovariotomy or ovariecctomy may offer some hope for a cure. The manifold phases of peritonitis which may cause sterility are not very much affected by treatment; counter-iritation may be tried in recent cases, and sojourn at springs.

L. ROSENBERG.

2. A. Martin: Repeated Laparotomy on the same Person (Zeitsch. f. Geb. u. Gyn., XV., I.).—M. gives detailed histories of twenty-three patients upon whom laparotomy was repeated—a total of twenty-four operations, as one patient had laparotomy performed three times. The indications for the repetition of the operation were in ten cases ovarian disease developed after the first operation; in seven cases there were pathological conditions of the tubes; in four cases a rapidly growing myoma; and in three cases other conditions (chronic peritonitis with abdominal fistula; extra-peritoneal hematoma of right broad ligament; incarceration of intestine from adhesions). In the case of the woman who underwent three laparatomies, the operations were as follows: right ovariotomy, enucleation of a subserous myoma, left ovariotomy. In describing the technique, the writer lays considerable stress on cases where the ovary is only partially diseased. In these cases it should be the aim to leave some ovarian tissue with the idea of preserving the power of reproduction. He does not give much weight to the troubles caused to a woman by the sudden production of the climacteric.
In the treatment of the abdominal wound the author criticises Wylie's method of sewing the peritoneum, fascia, and integument separately, as appearing to him too complicated.

The deduction which M. draws from his cases are as follows: Laparotomy should not be underestimated as an operation; it is an operation for the specialist, and to belittle it by comparing it, as has been done, to the introduction of a vaginal pessary, is wrong. All diseased tissues should be removed, but as much healthy tissue should be left as possible. Repeated laparotomy is difficult, but the prognosis is not bad. The incision should be made close to the old cicatrix and we must be on the lookout for adhesions, especially of intestine, to the old wound. One of the greatest difficulties comes from the adhesions among the loops of intestine, which require delicate manipulation to break down. Fistula or hernia may necessitate the resection of the old cicatrix.

W. L. Baker.

ITEM.

The third meeting of the German Gynecological Society will be held at Freiburg, in Baden, from June 12th to 14th inclusive. An active participation of those interested is requested. Papers have already been promised, as follows:

THE NATURAL RECTIFICATION OF MALPRESENTATIONS, 
AND ITS IMITATION BY ART. 

BY 
A. F. A. KING, A.M., M.D., 
Professor of Obstetrics, etc., in the Medical Department of the Columbian University, 
Washington, D. C., and in the University of Vermont, etc. 

With two plates and six woodcuts. 

1. The title explained.—The title of this paper is not sufficiently explicit, nor could I easily make it so without sacrificing brevity. My object is to study the influence of thigh-pressure—pressure of the flexed thighs upon the antero-lateral regions of the abdomen, produced by certain postures (notably by squatting)—as a factor in the natural rectification of transverse or oblique presentations, and other malpositions of the child. 

2. Novelty of the subject.—While the literature of obstetrics abounds with elaborate essays on "posture during parturition," and while the same subject has received attention in nearly all text-books, in no instance, so far as my researches extend, has any author directly, or even indirectly, referred to the factor of thigh-pressure in changing the position of the fetus as here proposed. 

3. This study necessarily theoretical.—Since transverse presentations, to which this paper will chiefly refer, only occur once in about two hundred and fifty labors, it is not likely that
my opportunities for clinical observation will afford me the occasion for demonstrating the practice I propose within any reasonable time. I am, therefore, only able now to present theoretical views, which, however, I trust may be sufficiently well founded to enlist the co-operation of others who may possess better facilities for demonstration. Speculation is the pioneer of discovery. If there be any virtue in the methods proposed, it may as well be demonstrated by one as by another, so far as concerns the progress of our science and art, which is the main object in view.

4. Necessity for caution in studying nature.—If, in our study of any natural process, one important factor, among others, by which Nature accomplishes the desired consummation, be omitted, then our understanding of that process necessarily becomes incomplete and our conclusions liable to error. And thus, I think, have our studies of natural labor—especially the study of its mechanism—been rendered imperfect by our leaving out, or not sufficiently taking in, the element of posture as a modifying factor. Our present understanding of the mechanism of labor is based, for the most part, upon the observations of Naegele and his successors, but these observations have been uniformly made upon women in the recumbent posture. No one, so far as I know, has watched and demonstrated this mechanism throughout its several stages while the woman was sitting, kneeling, or squatting. Hence the conclusion that in these latter instances the mechanism is exactly the same as when the woman is recumbent is only assumed, not proven. So, too, if the views propounded in this paper be correct, it will be evident that our ideas concerning malpresentations and their natural termination have also suffered from our leaving out one of the mechanical influences of posture that normally belonged to primitive woman, and which is usually deficient in the civilized one. The study of natural labor in women who follow the customs, fashions, and instructions of modern obstetrics cannot be a study of Nature, pure and simple, but of Nature modified and encumbered by artificial interferences. The highest aim of our art is to imitate and assist Nature, but we must be sure that our notions of Nature's methods are not imperfect or erroneous. As Denman wrote, more than half a century ago ("Pract. of Mid.," Am. edition, 1825, p. 453): "In the most perfect state of society, all just and true knowl-
edge in this art” (obstetrics) “being founded upon observation of the proceedings of Nature, and all sound practice upon the imitation, the well-judging practitioner would recur to the consideration of the primitive state.” Woman (like man) has inherited her skeleton, her pelvis, muscles, and nervous system from numberless generations of ancestry extending back through a long wilderness of ages preceding the recorded history of man, compared with which the few thousand years of modern time are scarcely more than the swing of a pendulum. And whatever slight modifications of recent date may have occurred, there can be little question that these fundamental structural inheritances confer upon her (other things being equal) the disposition to perform the parturient act in the same manner now as was common with her progenitors thousands of years ago. To study, therefore, the natural process of labor, we must study primitive woman—woman and the earth that she inhabits, not woman bolstered up in bed with the hundred other appurtenances of civilized life. A pregnant woman is liable to fall in labor at any hour and in any place; she knows not when nor where. The earth is always with her: not so the productions of a furniture shop. The parturient capacities she has inherited would be manifestly imperfect if they required the coincident aid of any exterior artificial appendage. The silent, automatic, prehistoric evolution of a woman’s organism could no more anticipate the construction of, and adapt itself to use, beds, chairs, etc., than a tree of the forest could anticipate, and provide itself with protection against, the woodman’s axe. I repeat, therefore, if we would understand natural parturition, pure and simple, we must study primitive woman—woman of the forest and the field.

5. The squatting posture more frequently assumed by primitive than civilized woman.—According to Dr. George J. Engelmann, whose elaborate paper on “Posture in Labor” appeared in 1880 (Trans. Amer. Gynec. Soc., 1880, pp. 182–184, etc.), a squatting posture is still assumed during labor in some parts of Russia and Great Britain, also in Persia, Arabia, Egypt, Kaffraria, Wazegua, Guatemala, Polynesia, West Micronesia, as well as among various Indian tribes, Mexicans, half-breeds, negroes, and the lower class of whites in North America. This posture is, however, repugnant to the refined civilized woman, and for the reason, most likely, that it sug-
gests defecation. In fact, Dr. Engelmann very properly remarks (p. 196) that "we may, in a general way, consider all postures as squatting which resemble that assumed in defecation."

Now, with regard to the influence of this posture as a factor in the rectification of malpresentations, we must not lose sight of the fact that primitive woman also resorted to the squatting attitude during defecation, while the refined civilized woman does not, but performs the act upon a commode or the elevated seat of her closet.

We observe, then, this difference between primitive and modern woman: viz., that during pregnancy, before labor—when a transverse (really only oblique) position of the child is easily rectified by suitable external pressure—the squatting posture is frequently resorted to during defecation by primitive woman, and not by the civilized one; and the same difference, as we have seen, is observed during labor. If, therefore, it can be shown that the thigh-pressure produced by this posture exerts any material influence in changing the position of the child, we cannot afford to omit the recognition of the circumstance in our study of natural parturition.

6. Mechanism of thigh-pressure, produced by squatting, in the rectification of oblique positions of the child during and before labor.—It is scarcely necessary to define the squatting posture. Any one of my readers may demonstrate it for himself: let him rise from his chair and squat; and in doing so, if he will place his closed fist, or even his flat hand, in the vicinity of Poupart's ligament, between the acetabulum and the abdominal wall, he will find his hand pinched and compressed between the thigh and the abdomen, and with considerable force, varying, however, with the degree of his embonpoint.

Now let us take a case of oblique position of the child during pregnancy, which, if not corrected, becomes a transverse or shoulder presentation during labor. The most common of these presentations is the dorso-anterior position of a right-shoulder presentation. The head is on the left iliac fossa, the occiput being usually both visible and tangible as a projecting tumor over the left antero-lateral margin of the pelvic brim, in the vicinity of the acetabulum or ilio-pectineal eminence; the other end of the fetal ovoid—the breech—is on the other side
of the pelvis, high up towards the crest of the ilium or above it. (See Fig. 1, page 567.)

In such a case, what takes place when the squatting posture is assumed? The thigh gradually approaches the abdomen, and compresses any intervening body or projection that may interfere with close approximation of the flexed thigh and antero-lateral margin of the pelvis, no matter whether the intervening body be outside the abdomen (as the closed fist previously referred to), or inside of it, like any projecting part of the fetus. The thigh acts as a lever—a lever of the second kind, the resistance (or "weight") being between the fulcrum and the power. The thigh-bone is the lever itself. The fulcrum is the acetabulum. The power is the pressure of the head of the tibia upon the femoral condyles at the very end of the lever; and the resistance is (when it exists) the projecting body coming in contact with the lever, between the fulcrum (acetabulum) and the power applied at the femoral condyles. In the transverse presentation just cited for illustration, the intervening body on the left side of the pelvis would be the occiput of the child's head projecting over the antero-lateral margin of the pelvic brim, near the acetabulum. This projection, being very close to the fulcrum, would, if it did not slip aside out of the way—in one or other direction—receive the brunt of the compression. Or, again, if we choose to consider the body of the woman, when leaning forward in the squatting position, as another lever of the second kind, the two levers being united at the acetabular hinge like a pair of nut-crackers, then, as the arms of the two levers approached each other in the act of squatting, any intervening body, especially near the hinge, would be forcibly compressed if it did not glide out of the way as above stated. It is scarcely possible that a rounded, slippery (and, during pregnancy, almost floating) body like the fetal head, when gradually compressed by another somewhat rounded column—viz., the thigh—would not slip on one side, particularly so when we consider that between the head itself and the thigh-bone are placed a number of apposed, smooth, gliding surfaces, viz., the apposed skin-surfaces (of the thigh and abdomen); peritoneal surfaces (between uterine and abdominal walls); decidual surfaces (between the vera and reflexa); and the surface of the child's scalp in contact with the amnion, etc. Moreover, while the thigh-lever comes in contact with and
compresses that portion of the child's head which is projecting over the left antero-lateral margin of the pelvic brim, there is, on the directly opposite side of the pelvis—viz., in the locality of the right sacro-iliae synchondrosis—no bony resistance to the receding head, but, on the contrary, an ample vacuous space, viz., that situated between the sacral promontory and the right posterolateral margin of the pelvic brim.

Still continuing our study of the illustrative case before cited, we find that the thigh-lever on the right side approaching or first making contact with the abdomen from below in the vicinity of the acetabulum, and the surface of contact being extended from below upwards as the act of squatting becomes complete, the breech end of the fetal ovoid will be pressed upwards and inwards towards the median line—in fact, changed from its oblique position to its normal place in the fundus uteri. As the child lies usually obliquely transverse, as we have said, with the curved surface of its convex back in front, the part that will first come in contact with the thigh-lever on this right side of the woman's pelvis will be the lumbar or sacral regions of the child's back—that is to say, very near the pelvic end of the fetal ovoid.

Thus, then, we have, in this illustrative case, when the squatting posture is assumed, thigh-pressure on the two ends of the fetal ovoid: on the left side the projecting occiput is powerfully compressed (being near the hinge) by a force approaching from the antero-lateral direction, tending to push, or rather displace, it diagonally backwards and laterally, in fact towards the inlet of the pelvis; while on the other end of the fetal ovoid, as just stated, the thigh-pressure tends to lift the breech upwards and inwards towards the fundus uteri. Thus the transverse, or oblique, presentation becomes a normal head presentation.

The more readily to appreciate that the contact of thigh-pressure is really near the two ends of the fetal ovoid, we must remember that the shaft of the thigh-bone is even more external than the acetabulum, owing to the length and direction of the neck of the os femoris, "which, in the adult female, approaches more nearly a right angle with the shaft than it does in the male and ante-puberie girl" ("Gray's Anat.," p. 158, 2d Am. ed., 1862).

This is very well shown in Fig. 1. By reference to page 145 of Lusk's work, Fig. 86, showing front view of pelvis
Rectification of Malpresentations.

with ligaments (from Quain), it will be seen that the upper part of the thigh-bone projects laterally about as far as the iliac crest, and yet not so far but that the ample cushion of fat and muscles covering the bone, especially along its inner surface, shall inevitably bring the femoral column in contact with the antero-lateral region of the abdomen in the act of squatting.

The mechanism of rectification, by thigh-pressure, in the dorso-anterior position of a left-shoulder presentation—the head being on the left iliac fossa—will be the same, except that the

![Fig. 1.](image_url)

events occurring on the right and left sides of the pelvis will be, respectively, changed to left and right.

The mechanism of dorso-posterior positions of the fetus, it may be presumed, involves the same principles, though the rectification would not, we should think, be so easily accomplished as in the more common dorso-anterior positions.

7. Variation in the amount and direction of thigh-pressure produced by modifications of posture.—In the foregoing theoretical study we have, thus far, only considered the squatting posture (the posture in which thigh-pressure would à priori
appear to be most pronounced). We have also considered the act of squatting as if it were always the same, and as if it were symmetrical, so that the thigh-pressure were alike on both sides. It must now be observed that kneeling, and even sitting, provided the body of the woman lean forward sufficiently, will also bring the thigh-columns in contact with the antero-lateral regions of the abdomen. Moreover, the act of squatting itself may be varied (the thigh-pressure varying accordingly) in many ways, depending (1) upon the degree to which the thighs are adducted or abducted during the act; (2) upon the degree of forward inclination of the woman’s body; (3) upon the greater or less distance between the feet, and upon one foot being, or not, in advance of the other. Again, (4) instead of being always symmetrical, the sole of one foot may be flat upon the ground, the other foot having only the toes or anterior end upon the ground. The corresponding thigh, in the former instance, will approach the abdomen much more decidedly than in the latter one. A woman may kneel with one lower extremity and squat with the other. Such variations might be further multiplied. Whether, in malpositions of the child, the instinctive sensations and inclinations of primitive woman prompted her to modify the squatting posture, and thus thigh-pressure, in a manner suited to rectify the various modifications of bad presentations, we cannot say; but, if postures of this kind come to be employed as a method of rectification, it will be necessary, in the absence of such instinctive inclinations, to study the influence of each posture (and its varieties) upon each malpresentation (and its varieties). That is to say, the degree, direction, and location of thigh-pressure, in the several instances, will require to be known, and selection made accordingly.

To illustrate the variation in thigh-pressure from variation of posture, I here insert seven figures photographed from life, the model being a white, multiparous woman, of middle age, endowed with considerable embonpoint, but presumably not pregnant. Figs. 2 and 3 present, respectively, a side and front view of the kneeling posture, the thighs being nearly in apposition, and the body slightly inclined forwards. In both instances the antero-lateral support of the abdomen, in a moderate degree, is very well shown.

Should the thighs, while still kneeling, be more widely separated from each other and the woman lean forward, the
The authorities of the Corcoran Art Gallery have kindly permitted me to photograph from casts of the originals.

In the squatting posture, with both feet flat upon the ground, it is somewhat difficult, either in man or woman, to balance the body for any length of time without some support by the superior extremities, as is shown in Fig. 8; and the posture is rendered still more insecure (provided there be no added manual support) when the toes of both feet are exactly on a line transversely—that is, when one foot is not in advance of the other in any degree. Any one can demonstrate this by experiment on himself. It would therefore be next to impossible in the squatting posture, especially in a pregnant woman, to assume this position in such a manner as to render the anterolateral pressure of the thigh-pillars exactly alike, in direction and degree, on both sides. Even the muscular savage woman,

1 The photographs from life, though presenting such varied appearances of the abdomen, were all taken within an hour. The woman was placed upon a table, only a little below the level of the camera. The photographing was done by Mr. Max Hausmann, of Washington, D. C., a medical student of the Columbian University.
the negress, when squatting with both feet flat, will have one foot in advance of the other, and still grasp a stake or tree with her hands to steady the body, as shown in Fig. 11.

In this figure it will be observed that the inner and upper border of the thigh-column almost touches the umbilicus; the uterus is poised between the two diverging thighs, the antero-lateral pressure upon the abdomen gradually diminishing in degree towards the woman's knees, but maintaining its maximum degree deep down towards the line of Poupart's ligament near the acetabulum. It scarcely seems probable that an oblique position of the child could maintain itself with the woman in such a posture.

Another illustration of thigh-pressure may be seen in the posture of the Mexican half-breeds, who steady themselves during labor by grasping a suspended horizontal bar or stick of wood, as shown in Fig. 12.
That in certain sitting postures thigh-pressure constitutes a factor in maintaining the normal position of the child may be inferred from Figs. 13 and 14, representing the Kaffir woman and Sioux squaw in labor (taken from Engelmann's paper, Am. Gynec. Trans., 1880, pp. 196 and 226).
Rectification of Malpresentations.

Reverting once more to the squatting posture, which was probably the most ancient and primitive of all positions during childbirth, and recalling the tendency to grasp some support with the hands in order to facilitate balancing the body, it is interesting to note that the civilized woman of the present age, even though recumbent during labor, still preserves the instinctive desire to grasp something with her hands during the pains, no matter whether she pull on it or not. Can this instinct be a rudimentary survival of the ancestral habit of grasping a stake, etc., while in a squatting posture? And does it suggest that this posture was common with the ancestors of modern woman?

8. The influence of thigh-pressure in obviating the causes of malpresentation.—The most common and potent of these causes will here be considered separately. First: Obliquity of the uterus. This obliquity, whether lateral as in transverse and face presentations, or in the direction of anteversion as in cases of pendulous abdomen, can scarcely fail of correction when the womb is forcibly compressed, in a squatting posture, by the femoral columns on each antero-lateral region of the abdomen. In fact, the pregnant uterus, while the woman assumes this posture, will be contained in a sort of truncated cone formed by three pillars, viz.: the woman's lumbar vertebrae behind and a thigh-pillar on each antero-lateral region of the abdomen. Considering the power of the thigh-pressure and the gliding surfaces of the apposed uterine and abdominal peritoneal layers, and remembering the facility with which the hands of the obstetrician can lift the oblique uterus into line by external manipulation, it seems almost incredible that thigh-pressure, in the manner stated, would not rectify the obliquity.

Second: Luxity of the uterine and abdominal muscles. This is one of the conditions accounting for the greater frequency of malpresentations in multipare. But when these muscular walls have not sufficient tonicity to maintain the fetus and womb in their normal position, how can we conceive of anything better adapted to reinforce the relaxed muscles, or to take their place, than the two cushioned pillars of the thighs forming the antero-lateral columns of the cone-shaped support already mentioned? In fact, the uterine and abdominal walls being relaxed, the influence of external thigh-pressure in rectifying abnormal position of the fetus would be all the more potent
and effective. Third: *Excess of liquor amnii.* The influence of thigh-pressure in obviating this cause of malpresentation is not so evident. In a pronounced case, with great uterine distention—the child, too, being usually small in size—the bulk of the fluid would, it may be supposed, intervene between fetus and uterine wall, so that the thigh-pressure could hardly reach the body of the child. Still there is this to be said: In a primitive woman with hydramnios, who resorted to a squatting posture in defecation during pregnancy, it is not improbable that compression of the womb by thigh-pressure would lead to rupture of the amnion and discharge of the fluid *while in this posture*; then, as the uterine distention lessened, the thigh-pillars *would* impress the child and divert it from a transverse presentation. But dropsy of the amnion is an uncommon and distinctly abnormal condition, so far removed from natural labor as to be rather out of place in this discussion. And the same may be said of a *narrow pelvic brim* and of *placenta previa,* which are additional causes of transverse presentation. The occurrence of malpresentation in *twin* cases would probably meet with its correction or prevention by thigh-pressure as in single pregnancies.

9. *Relative frequency of malpresentations among women who do and those who do not assume the squatting posture during defecation and labor.*—So far as I have been able to discover, there is not much evidence on this point; perhaps it has never been sought for. While transverse presentation does occur among primitive peoples, as observed on the borders of civilization at the present time, it has been found to be a *rare occurrence.* Dr. Engelmann tells us that a physician residing eight years among the Canadian Indians knew of no accident and heard of no death in childbirth; and another, living four years with the Oregon Indians, was not aware of any irregularity occurring during that time, nor was he ever called upon to perform a serious operation (*Am. Journ. Obstet.*, July, 1881, p. 608). He, however, speaks of cases of "malpresentation" and "shoulder presentation" among the Nez-Peres Indians (ibid. p. 611) and the women of the Green Bay Indian Agency (p. 609), and states that in such cases "the mother is generally doomed"; the child cannot be born, and death follows. 

*Dr. Williams has observed that the Pawnees are more exempt from accidents than the Menomonees, and inquires whether it
is on account of the squatting posture assumed by the Pawnee women in labor” (ibid. p. 609). He does not mention the factor of thigh-pressure.

I had hoped to find evidence on this matter in the published histories of recorded cases of “spontaneous version or rectification” among our own people. For this purpose I have examined about one hundred journal articles under the captions of “Spontaneous Version” and “Spontaneous Evolution” (from manuscript cards on those subjects prepared for the catalogue of the library of the surgeon-general’s office, kindly placed at my disposal by Drs. Billings and Fletcher). These references cover at least two hundred cases, but most of them (a good majority) are cases of spontaneous evolution instead of turning. And of the cases of spontaneous version, the posture and changes of posture of the woman are often not mentioned. Moreover, some of them are cases in which original head and breech presentations were spontaneously turned or converted into shoulder cases. On the whole, I must confess this field of research afforded no conclusive evidence in support of the views I have here presented, although there are a few cases in which spontaneous version was found to have occurred while the patient was out of bed using the night stool; or immediately after being placed in a bath; or after being placed in position for the operation of turning; or, again, after the woman had become ungovernable, tossing about in every posture; or after she had “sat up in bed because it was the easiest position”—cases which suggest, but do not prove, that the factor of thigh-pressure may have contributed to turn the child.

10. Version by external manipulation, as now practised, an unconscious imitation of thigh-pressure; Maxon’s method considered.—Every one who has practised external version in transverse presentations, or who will read the orthodox description of that manoeuvre, will see that the hands of the obstetrician—the one pressing the cephalic end of the fetal ovoid towards the pelvic brim, the other lifting the breech end upwards and inwards towards the fundus uteri—are doing exactly what I have shown the pressure of the two thighs may do in the squatting posture (see section 6 of this article). And besides, the direction of the thigh-pressure on each side, even the desired character of the pressure—viz., “half-sliding and
half-pushing” (Lusk, p. 370, quoting Barnes), “the sliding, gliding movement” (P. F. Mundé in Am. Jour. Obstet., April, 1880, p. 344), “series of gentle, gliding movements” (Playfair, p. 460, 4th American edition)—are necessarily executed by the thighs gliding against the abdominal wall every time the slightest variation is made in their abduction and adduction, or in the degree of forward inclination of the woman’s body, etc., as before explained.

It is quite probable that the effect of Maxon’s method in facilitating version is not due, as he thought, altogether to gravitation of the child towards the fundus, but also, in part, to thigh-pressure; for, be it noted, he not only placed the woman in the knee-chest position, but also insisted that the knees, instead of being on the same level as the chest, should rest upon several pillows or a roll of folded quilts. Such a posture would bring the thigh-columns forcibly in contact with the antero-lateral regions of the abdomen, and the woman, while thus wrong-side-up, would have her thighs and abdomen bearing somewhat the same relation to each other as would occur in a squatting posture.

11. Thigh-pressure in the rectification of face presentation. —Since the most common cause of face presentation is obliquity of the uterus, the rectification of this obliquity by thigh-pressure in the manner previously stated will be obvious, particularly so in the more usual mento-posterior “positions” of the face. Schatz’s method of converting a face into a vertex presentation by external manipulation, early in labor, would appear to be quite possible of imitation by a suitable selection of posture to secure the kind and direction of thigh-pressure necessary to accomplish the desired conversion. By reference to the figures, it will be apparent that the thigh-pressure on either side of the abdomen may be varied in its location, direction, and degree, according to the posture selected by the obstetrician.

12. Concluding remarks.—Few of us, perhaps, realize the frequency with which the fetus changes its attitude during the latter weeks of pregnancy, especially in multiparae who are not restricted as to changes of posture in themselves. Even the alleged constancy of position (of the fetus) in primiparae during the last three weeks, has been denied by Karl Schroeder (“Manual of Midwifery,” Carter’s translation, p. 29), who found changes of fetal position at this time in eighty-one out of two
hundred and fourteen *primiparous* cases. A transverse position was changed to a head in six instances, a transverse to a breech once, a head to a transverse once, and a breech to a head once. But this only states the *observed* changes: it does not and cannot state the *un*-observed ones, for to ascertain these latter the woman and her child would require to be watched during the entire twenty-four hours, from noon till midnight, and the examination repeated after every change of the woman’s posture likely to alter that of the child. And this leads us to the not improbable inference that the assumed constancy of fetal posture in any case is rather abnormal than otherwise, and would not occur if normal freedom of posture or of postural change were as unrestricted in civilized as in primitive woman.

Nor do most of us fully appreciate the *real* facility by which the child is moved, not only during pregnancy but during labor. “Those of us who have given attention to this subject,” says Prof. Isaac E. Taylor (this journal for July, 1881, p. 534), “notice how easily it can be effected, when the breech or shoulder presents, by making it a head, or the head a breech; and sometimes it is done by only a few touches of the finger on both sides of the abdomen, and even after the evacuation of the waters.” In the face of these facts, the very *powerful* pressure of the thigh-lever upon the abdomen, as a factor in changing the attitude of the child, cannot be ignored.

Velpeau tells us (Meig’s translation of V.’s “Midwifery,” p. 455) that the ancients were not wholly unaware of the passive movements undergone by the fetus *in utero*, since they advised, for the purpose of bringing the head to the strait, that the woman should be shaken or assume certain positions; and that the moderns have established a rule “that the position of the child, while still inclosed in the membranes, is so variable that, in order to fix it, it becomes necessary to rupture the ovum, choosing a moment when the head corresponds to the centre of the pelvis.” Velpeau also refers to “certain attitudes of the woman long persisted in” as one of “the principal causes of bad positions of the fetus” (p. 455, ibid.). In this connection it is interesting to remark that primitive woman, when observing a flow of fluid from her genitals due to rupture of the amnion, would most probably *at once assume a squatting posture*, as in urination (in fact, some of our modern women do so), and thus, if there be any truth in my thigh-pressure theory, the
pressure would be at once applied at the right moment to get and preserve the long axis of the fetus in line with that of the womb, in which correspondence it would now be maintained by the uterine walls after the evacuation of the waters.

It is a not uncommon history of transverse presentations, among our own women, for the waters to break and be discharged at the beginning of labor, and after only slight pains, and then for the pains to cease entirely for hours or even days, as if the womb were waiting for something to occur and correct the malpresentation. In primitive woman, the thigh-pressure of a squatting posture probably constituted the missing "something" by which rectification and progress were secured. Why should not modern woman, in similar cases, be amenable to the same treatment? On the other hand, there are numerous cases on record among our own women where the rectification of a transverse presentation has occurred—though usually after long delay—while the woman remained recumbent, and numerous hypotheses, such as "irregular uterine contraction," or "uterine retraction," etc., have been suggested to account for or explain them. They have been ably discussed by Dr. I. E. Taylor in the article previously referred to (this journal for July, 1881, pp. 525–551). These cases only tend to show what Nature can accomplish in time, even under adverse circumstances. They by no means disprove that thigh-pressure produced by posture would not be a safer and speedier method of rectification. If the thigh-pressure method be the natural one, then it is the better and should be utilized by art. But this, as I have said, requires clinical demonstration. My only hope in this paper is to have presented the theory with sufficient clearness and plausibility to invoke clinical experiment.

The practical utility of the method proposed must not, however, be confined to the mere rectification of malpresentations early in labor. I see no reason why it should not serve a good purpose in cases long delayed, even with protrusion of the arm and shoulder, and where version by ordinary methods is found to be difficult or impossible from partial impaction of the fetus and tight contraction of the womb. In some of these cases, even where the arm has repeatedly been pulled upon by a midwife or obstetrician, or in which an embryotomy operation has been begun, or in which version has been attempted and failed—even in these cases, after very long delay, the arm has
been spontaneously withdrawn, and the head or breech has come down in its stead. Others have been turned by the Foster method of using the humerus to make pressure upon the glenoid cavity and thus change the presentation; and others again by Maxon's method, previously cited. The great desideratum in these cases is to lift up the presenting shoulder above the superior strait by main force, which is never done without danger of uterine or vaginal rupture. Is it not probable that a suitable adjustment of the thigh-levers, secured by suitable posture, could accomplish this forcible elevation of the presenting shoulder more safely than by the orthodox methods previously named? If it did no good, the experiment would at least possess the virtue of being harmless.

THE MANUAL TREATMENT IN GYNECOLOGY.\(^1\)

BY

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In 1880, A. Reeves Jackson read an able paper on "Uterine Massage" before the American Gynecological Society.\(^2\) Although aiming at the same purpose, the procedure described by him differs materially in many respects from the later methods.

Owing to the investigations and writings of Profanter and Schultze,\(^3\) Resch,\(^4\) Seiffart,\(^5\) Schauta,\(^6\) Von Preuschen,\(^7\) Theilhaber,\(^8\) Lindblom,\(^9\) and others,\(^10\) the manual treatment of diseases

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\(^1\) Read before the N. Y. Academy of Medicine, Obst. Sec., April 25th, 1889.

\(^2\) See Gynec. Transactions, Vol. V.

\(^3\) Die Massage in der Gynäkologie, Vienna, 1887. Subsequently another monograph on Procidentia, by Profanter.

\(^4\) Centralblatt f. Gyn., 1887, No. 32.

\(^5\) Die Massage in der Gynäkologie, Stuttgart, 1888.

\(^6\) Ueber gyn. Massage, Prager med. Wochenschr., 1887, No. 43.

\(^7\) Centralbl. f. Gyn., 1888, Nos. 13 and 30.

\(^8\) München med. Wochenschrift, 1888 Nos. 27-28.

\(^9\) Ibid., Nos. 46-47.

\(^10\) Brandt's "Gymnastiken," etc., etc., Stockholm, 1884, has been abstracted and remodelled in German by Resch, Vienna, 1888.
of the female pelvic organs according to the method of Thure Brandt is beginning to find numerous followers, and it is due to their favorable criticism that the time for ridicule is gradually passing. I, too, influenced by published articles, visited Brandt, who, with his accustomed liberality, gave me opportunity to study his method and practise under his supervision. I was the first physician from America to come to him, but I trust that others will soon follow and learn the method from the originator. To him and his former pupil, Dr. Oscar Nissen, of Christiania, I take the opportunity to express my sincerest thanks publicly for the courtesy shown me and the valuable instruction given. Brandt has employed his method as a specialty in gynecology twenty-eight years, and by his practical demonstrations and his willingness to teach others has rendered the profession a service which deserves lasting gratitude.

The treatment, however, requires much time and patience and a very exact practical knowledge of physical gynecological diagnosis; those not possessing the latter should leave it alone, lest they do more harm than good. It is a serious mistake for any one to think that the method can be easily learned, especially from reading.

I fully coincide with Prof. Schauta that to learn it properly one must see the originator or one of his pupils, and receive practical instruction from such source; more can be learned in one month by that than in one year otherwise.

To criticise the manual treatment of Brandt so unfavorably as has been done by some, is very unfair, and only those who have never used it, or are practically ignorant of its proper application and the selection of cases suitable for it, have been and can be guilty of such error.

There is, however, a reason why Brandt himself attains more satisfactory results in a shorter space of time than some of his followers—namely, he does not rely on local treatment alone, but subjects his patients to the particular movement cure suitable for the respective case, which in the greater part coincides with the work of his former teacher, Gabriel Branting," he himself adding or changing such as his long experience of forty-seven years had taught him most appropriate.

The patient is invariably first examined while standing, this

position showing the relation which the uterus bears in the pelvis while walking, better than otherwise; after this she takes her position on the examining lounge, the corset being loosened, or better taken off, and the clothing about the waist also loose. The lounge is short and low, with a rather high and slightly slanting head piece, so as to better accommodate the raised position of the back, shoulders, and head. The patient lies perfectly relaxed in semi-prone position, with the thighs and legs flexed, and the physician takes his seat to her left side, and allows her to rest the left hand and forearm on his right thigh. The left index finger is now passed under the left thigh into the vagina; the hand is slightly flexed at the wrist, and the last three fingers are kept straight and rest on the perineum, instead of being closed as is usually done; the thumb is held abducted and rests on the pubis. The hand used for vaginal examination, held in the manner indicated, has the advantage that the examining finger can be introduced fully one-quarter of an inch deeper, with full mobility, without causing the patient to feel uncomfortable from pressure of the knuckles. The great advantage to be gained by rectal examination in many cases must not be lost sight of. There must not be the slightest exposure of the patient at any time during examination or treatment; this some who have spoken unfavorably of the method do not seem to comprehend, because stress has been put by them on the exposure to which patients are subjected. The right hand and arm, on account of its superior strength generally, is used for external manipulation. The hand is held stiff for massage proper, making all movements from the shoulder and elbow joints, and the palmar surfaces of the first two finger joints are used on the abdominal surface. For diagnostic purposes the manner of holding the external fingers varies. It is of course to be preferred to be able to use either hand with equal ability. We endeavor to obtain the condition and relation of all the pelvic organs with as gentle manipulation as possible. It is, however, very difficult and sometimes impossible to do so the first or the first few times if the abdominal walls are stiff or very adipose, and occasionally we may fail altogether if either or both conditions are in excess.

Having made our diagnosis, the treatment is decided upon, which is divided into the special and general; the latter serves
as an aid to the local and special treatment, and should never be used directly after meals, and the bowels and bladder should always be evacuated as shortly as possible before it is commenced. The general treatment I will not consider in this paper.

Before beginning with the local treatment of the diseased part, a sort of preliminary massage is used, consisting of small circulatory stroking movements, which are begun about the promontory of the sacrum, extending down as far as possible along its anterior surface, with a view to stimulate the lymphatics, which are in greater number here. This initiatory massage I have seen invariably used by Brandt and Nissen, and have also held to it. After this the treatment of the diseased part is commenced; but before entering into the special forms of local treatment, I will mention the indications and contraindications.

INDICATIONS.

1. Chronic and subacute para- and perimetritis.
2. All non-acute inflammatory conditions of the uterus.
3. Chronic and subacute oöphoritis.
5. All displacements of the uterus, with or without adhesions, with restrictions in the treatment if dilated tubes are present, or suspected to be.
6. Recto- and cystocele.
7. Uterine hemorrhages not dependent upon neoplasms in the substance or interior of the uterus, or the products of conception and endometritis.
8. Incontinence of urine dependent upon relaxation of the vesical sphincter.
10. Floating kidney.
11. Prolapsus recti.

With the last three conditions I have had no experience, yet from personal statements received from Brandt and Nissen, and regarding No. 9 from Prof. Schauta, I have no reason to doubt the efficacy of the treatment.

Hemorrhages or catarrhal discharges due to a diseased endometrium, although beneficially treated by Brandt with his method, I have not attempted to treat with massage, because
I am satisfied that a much quicker and more radical therapeutic agent is in our hands by the use of the curette and the intrauterine application of carbolic acid, tincture of iodine, chloride of zinc, etc.; after that massage may be used if necessary.

**CONTRA-INDICATIONS.**

1. All acute inflammatory processes except some which may arise during treatment.

2. Dilated tubes, except, according to Brandt’s and Nissen’s personal statements to me, if the uterine opening of the tube is pervious.

3. All conditions where suppuration is suspected, except as noted above.

In the employment of massage, it is of importance to know which form is suitable for the particular case, whether we need the movement small circling, large circling; these employed with light, medium, or heavy pressure, a vibrating stroke, vibrating pressure, kneading, grinding (malning), and when to use stretching in conjunction, how much stretching and its direction. The same may be said of the general and special gymnastic exercises; great care in the selection of everything appertaining to the treatment must be used.

It is of importance not to cause the patient too much pain; to prevent this it is necessary to watch the countenance, where sensations of excessive pain are at once observed; but, besides, the hand resting on the physician’s thigh will also often make it manifest by pressing more or less according to the intensity of the pain experienced. The rule is that all treatment must be begun with gentle pressure, which can be more or less rapidly increased to the desired force; the moment it is seen that too much pain is produced, the power brought to bear on the part treated must be decreased. If an undue amount of force is used in the beginning, the abdominal parietes will at once become hardened by contraction of the muscles, which it is impossible to overcome with a continuance of such pressure; besides, the patient will be frightened and nervous. It is not at all unusual that one must use one or more “sham treatments” in the beginning, in cases of displacements when the “lifting” is to be used, and in those with tense abdominal walls, especially if they are of a nervous temperament. I have not attempted to treat patients with very fat abdominal walls with this
method, considering that very little or no benefit can be derived in such.

Another noteworthy point is, should one be so unfortunate as to cause a more acute inflammation or a hematoma, which is no fault of the method but rather of the physician, the treatment should not be stopped until the condition has disappeared, but its continuance should be insisted on, with this difference: it should be used two or three times daily, short séances with very light massage and the use of Priesnitz applications or ice bags during the intervals. The patient must remain in bed until again in fit condition to resume ambulatory treatment. I have seen very gratifying results in some such cases; whereas with the expectant plan considerable time will elapse.

Should ambulatory patients complain of much pain after the treatment, a cold application for a few hours will give relief.

Each séance, no matter how powerful massage has been used, must be closed with light massage, and finally placing the open hand on the lower part of the abdomen for a few moments, with vibratory pressure; the latter is also productive of a soothing influence.

Never begin massage directly at the diseased part, but keep to its surroundings until the sensibility becomes lessened, and then gradually advance with the circle movements until the desired part is reached.

From the above general statements it will be noticed that no limited duration of treatment can be given. I have given séances varying from three minutes to three-quarters of an hour, and have yet to see the first patient object to the length of the séance, having devoted from four to five hours daily, during the past six months, to the practical investigation of the method.

For diagnostic purposes alone, Thure Brandt’s method stands par excellence, anesthesia excepted. This all who know how to use it properly acknowledge. Von Engelhardt, of Hamburg, told me that he could with it diagnose pathological conditions with almost absolute certainty, which, previous to his work with Nissen, was impossible without the use of chloroform.

There can be no question as to its absolute safety in proper hands. To prove this it is only necessary to mention that Brandt has treated thousands of cases without a single serious accident. It must not be supposed, however, that the treatment is pain-
less: there is invariably a more or less painful sensation connected with it; but the observing eye and experienced hand of the physician must be on the alert so that it is not excessive. It is, in fact, a requirement to produce some pain for a well-understood reason, but in the employment of massage and stretching we must bear in mind the standing rule, "rather do too little than too much at one time."

When beginning massage of an old exudation, the small circles with light pressure are made rapidly in the direction of the lymphatics of the part treated, supporting it with finger in the vagina or rectum, whichever makes the best support. Sometimes both cavities are entered, the thumb in the vagina and the index finger in the rectum; this will be called for where there are large exudations. Principally the two distal joints of the first two or three fingers are brought to bear externally. After circling a few minutes in the manner indicated, the pressure is increased, and instead of making the small circles, larger circling, rubbing strokes are introduced; should the patient be able to bear a quiver squeeze (produced by the same means as the trembling stroke), these are used more or less extensively around the periphery, gradually nearing the centre. The arm is kept stiff, and the force comes from the whole upper extremity. The "heavy" treatment varies in duration from ten to twenty minutes, closing the séance with the light treatment as previously noted. The trembling stroke is also used in this forcible treatment, made by causing the fingers which glide over the mass to vibrate through contraction of the muscles of the arm. To cause still more rapid absorption of large and firm chronic exudations, the grinding (malning) movement may be practised, which is made by introducing the tip of the index finger into the anal opening, stretching the sphincter gradually in an anterior direction, and while stretching carry the finger high up into the rectum, holding the dorsal surface of the hand anterior; now use the slow pressing or grinding strokes on the exudation in the direction of the pelvic vessels. The same discretion must be used in these movements as in the others mentioned, on account of the nerve supply, which when pressed too forcibly causes intense pain. The external hand follows the direction of the lymphatics with an even, gliding stroke. The process of kneading also renders excellent service in such cases, and is made with the ball of the hand.
Variations must always be made according to the case and the temperament of the patient, and the factors laid down in the general principles are to be borne in mind; if this is adhered to we have in the above also the treatment of the less chronic and the acute exacerbations which may perchance arise during treatment. Never forget that the intra-vaginal finger is for no other purpose than that of support of the part to be treated; and when changing the point of support, do not move the proximal end of the finger, so as to avoid irritation of the introitus.

After finishing the massage, such gymnastic movements are made as have a tendency to diminish the flow of blood to the pelvis; the first, a very important one in the list, and which the physician himself gives, is the closing or bringing together of the flexed extremities with raised pelvis, viz.: The patient, remaining in the position occupied during treatment, and with the heels approximated, raises the pelvis; the points of support are taken from the feet and shoulders; now she separates the knees as wide as possible, and the physician, placing his hands on the external surface, forces them together slowly and evenly, avoiding jerky movements, while she resists; she then separates them again in the same manner, whilst he resists. This is done four or five times successively. This movement, which exercises the abductors of the thigh, must not be confused with the one to be mentioned later on, as used in posterior displacements, procidentia, etc.

As soon as the exudation has subsided sufficiently, stretching of the adhesions which fix the uterus is commenced; this is done in a moderate degree in the beginning, until we know exactly how much the patient can bear without injury, and it is pursued from various points and in various positions of the patient—from the rectum, the vagina, or both, and through the abdominal walls. She may be standing, or lie in the regular position or in the knee-chest position. Generally, however, for adhesions which are situated low, it is best for the patient to stand, leaning with one arm (the right) for support on the shoulders of the operator, who sits on a chair in front and a little to the side of the patient; the hand and arm not in use for stretching is placed around her hips, which steadies him and also prevents her from retreating. The finger being introduced into the vagina, the cervix is pushed toward the
side opposite the adhesions; it may be necessary to push forward or upward. Or, again, the stretchings are done with the index finger in the rectum and the thumb in the vagina. I sometimes find it beneficial to rest the elbow on my knee, which prevents the arm tiring so soon in cases of dense adhesions, when stretchings are made through the vagina or rectum. This procedure answers admirably, in some cases of retroflexion with adhesions, to push the fundus up; the knee-chest position can also be used for the latter cases; usually, however, they are best treated in the supine position—the finger in the vagina pushes the cervix toward the adherent side, while with the finger tips of the external hand the uterus is grasped in the most convenient way, and drawn either steadily or with a slight vibratory motion in the opposite direction. However, which is the proper plan of treatment can only be decided upon at the time. After stretching, massage must always be used.

Ovaries which are displaced by bands of adhesions are treated on the same general principles. Introducing the finger into the rectum or vagina, as the case may be, in order to get the internal finger to the adherent surface of the gland, the finger tips of the external hand describe rapid small circles to the adhesions, thus endeavoring to free the ovary; this being accomplished, the adhesions are gently stretched, carrying the ovary toward its normal position, at the same time using massage to the adhesions.

When using massage for oöphoritis and peri-oöphoritis, the gland itself is treated with the small, rapid circle movements with very light pressure, more force being brought to bear on the surroundings; that the small cysts frequently present on the surface of the ovary are never or seldom ruptured I am sure of, yet should it occur there is no danger. With regard to inflammations of the tubes, I have not come to any favorable conclusions as to the efficacy of the treatment, with occasional exceptions. Whenever the tube is dilated, and we have made sure that the uterine opening is not occluded, the treatment as Brandt directs may be tried; but Brandt himself has occasionally in cases of pyo-salpinx gotten a drop of pus into the peritoneal cavity, evinced by severe pain on the respective side.

Begin near the uterine extremity, and always in a direction toward the uterus. Small circle and short stroking manipulations will be found to answer best. I would caution against
treating a patient with distended tubes, especially if they contain pus, if the walls of the abdomen are not sufficiently thin and flaccid to allow a very exact manipulation. It should never be done by any one who is not ready to do an abdominal section on short notice. Although Brandt and Nissen never had a serious mishap, others may not be so fortunate as these truly great masters in the manual gynecological treatment.

My personal experience in treating tubal disease is that the patients will improve temporarily, but in the course of a few weeks they will be as ill as prior to the treatment, and even during the treatment such exacerbations are apt to occur.

Massage to the uterus is usually employed with the organ in the anterior position, except, of course, in posterior fixation, if the holding bands are not sufficiently yielding to allow anteversion. The intra-vaginal finger supports the organ always in front of the cervix, and with the external finger massage, according to requirement, is made. When the uterus is fixed posteriorly, the supporting finger is introduced into the rectum and the massage is used on the anterior surface; at the same time we should endeavor to get the finger tips of our external hand to its posterior surface, whilst the supporting finger pushes it upward, so that stretching of the adhesions can be made. If cystitis is present, or an unusual irritability of the bladder, from whatever cause it may be, the median line of the uterus must be avoided when manipulating posteriorly, and we should manipulate more laterally to prevent increase of irritability; or the uterus may be retroverted to use the massage anteriorly. Discretion must be used in this, for, as Brandt says, we may produce the retroversion as a pathological condition by this procedure. The vesical trouble is, however, always separately treated.

The amount of weight we bring to bear when massaging the uterus will depend upon the condition of the organ. If large and flabby, we use very light circulatory massage of short duration; but the nearer it approaches the normal condition, the more pressure we can use and the longer may be our séance. The parametria should always be treated in conjunction.

In accompanying endometritis, I prefer to use the curette, etc., before commencing massage. Brandt considers light massage of the fundus useful in atrophy of the uterus. It seems to me that its usefulness will depend on the cause of the
atrophy; for if the atrophy be secondary to changes in the ovaries or serious organic disease, the treatment can be of no avail. I cannot conceive its usefulness in other varieties, etiologically speaking, than in that form accompanying or following lactation, in which, as well as in the other varieties, the organ is usually retroverted, and not infrequently the wearing of a suitable pessary in such cases soon brings about a normal condition.

Massage may be used with great advantage during menstruation; it must, however, be employed very gently then, and with even greater care. The credit of showing its superior benefit at this time is due to Dr. Oscar Nissen.

Displacements.—The best manner of reducing a posterior displacement will depend entirely on the condition and exact position of the organ. Although the use of an aseptic sound by any one thoroughly accustomed to the instrument may not be dangerous, it need never be used, and Brandt, as well as many eminent gynecologists, have discarded it entirely for this purpose. I have never seen a non-adherent uterus which I could not anteflex manually, though I commit myself to its use usually in women with very rigid, sensitive, or adipose abdominal walls, in order to save time and annoyance. Brandt describes six methods of reduction in his "Gymnastiken," but every one thoroughly acquainted with gynecological work will readily recognize in which way a particular case can be best managed.

Displacements never give rise to any symptoms except mechanical, unless there are other pathological conditions associated with them. I have come to this conclusion by the observation of a very large number of cases, and find that my experience is corroborated by the treatment which Nissen pursues: he, of late years, never endeavors to correct any posterior displacement, only treating the accompanying lesions by massage, and, according to him, invariably frees his patients of the symptoms of which they complain. How long they remain in good condition I cannot say; he claims the cure permanent. With this any one who follows such cases for a long time cannot agree, for usually it is the malposition of the uterus which causes the other lesions, and for that reason it should always be treated.

The presence of adhesions is a contra-indication to the treat-
ment of displacements by the lifting movement. After replacing the uterus in a normal position, and the necessary massage having been used, the physician remains in the usual position, and places his index finger on the anterior surface of the cervix; at the same time the cervix may with advantage be pushed upward and backward, which will bring the fundus higher up and nearer the anterior abdominal walls, enabling the assistant to get a better hold of the uterus; then he places his free hand on the hypogastrium from above downward, pushing the integument to the lower part of this region, which shows the assistant (who should, if possible, be a trained female gymnast) exactly where the uterus is, and prevents pain to a certain extent, when the lifting is done, by taking the tension off the skin. The assistant stands with the right foot on the ground to the left side of the patient, and with the left extremity kneels on the lounge, bracing the hips lightly against the patient's knees. Now the two hands, which are held supinated, and the arms straight and stiff, are, between the thighs of the patient, placed flat on the abdomen, the position being that the thumbs are near the anterior superior spine of the ilium, and the ulnar sides nearly approximating each other; the hands are now gradually and evenly pushed into the true pelvis between the symphysis and uterus, carrying with them more superficial integument from above to prevent strain when heaving the uterus upward. The physician removes his guiding hand when the assistant's are in proper position, and as the latter gradually pushes her hands into the pelvis the body is slowly inclined forward, so that the thorax and head nearly come in contact with the patient's. A part of the uterus with the parametria are now under the fingers of the assistant, which are now slightly bent so that the organ can be more readily carried upward; this is done by following the direction of the sacral curvature with a heaving movement combined with slight vibration. When the assistant lifts the uterus, the physician will feel the cervix gradually glide away from his supporting finger; and when a stretching of the vagina at the cervical junction is appreciated, the assistant is notified to cease the lifting, and holds the uterus in the attained position for a few seconds, when the physician orders a forward movement, upon which the assistant loosens the grasp gently with the slight forward movement, done with the fingers, which throws the uterus,
provided everything has been properly done, into anteversion. When the assistant loosens his hold on the organ, the physician must receive it on the finger again the same as it was previous to the gymnastic movement. The lifting is done three times, after which follow the regular massage and the exercises for strengthening the floor of the pelvis. The latter is done by the patient raising her pelvis—in the same manner directed for the movements after massage for exudations, etc.—to diminish the flow of blood to the pelvic organs; but instead of the hands being placed on the external surface of the knees, they are placed on the internal surface, and the physician separates them as wide as possible, with resistance on the part of the patient; this done, she closes them again, and the resistance is reversed. This exercises the adductors of the thighs, and, combined with the raising of the pelvis, prevents an undue flow of blood to it. When these movements are finished she rises from the lounge, without decided exertion, in which the physician aids her by placing his hand to her back between the shoulders; then he inserts his thumb into the vagina on the anterior surface of the cervix at the vaginal junction, and presses backward and upward for a few seconds, to relax anteriorly and to cause contraction of the fixating parts posterior. After this she stands firmly braced against some unyielding object, as a wall or desk, with the hands and feet turned inward; leaning slightly forward, and a rapid percussion of the loins and sacrum is made. Beginning in the lumbar region, the parts are percussed down on either side to the buttocks with closed hand, but the wrist is held loose, so that the raps have a sort of spring, and they are given with very little force. Their intention is to vitalize the pelvis through the nerve supply. After percussion the open hand is stroked over the parts three or four times from above downward for its soothing effect. If amenorrhea is present, the percussion is done with more force and the brace of the patient is not so firm. After this she is required to lie on a couch on her abdomen for about fifteen minutes before she receives the remaining gymnastic exercises intended for her.

The lifttings as described are used with some modifications for all other forms of displacements (anteflexions excepted), also for recto- and cystocele.

In procidentia, for instance, the uterus is carried much
higher, sometimes nearly to a level with the umbilicus. If it is
a lateral deviation, the hand is first introduced on that side to
which the uterus is inclined, and during the lifting that hand
pushes the organ slightly in the opposite direction.

All liftings are made first upward, then forward in the axis
of the pelvis.

A word in regard to the total extirpation of the uterus in
cases of complete procidentia—an operation which has been
done a number of times in this country and in Europe, if the
organ could not be retained by ordinary means. I want to be
put down as considering it an unjustifiable operation in every
instance until the method described has been given a fair
trial in experienced hands; and if it does not succeed, then fixa-
tion of the organ to the anterior abdominal walls, or the short-
ening of the round ligaments, should be used before resorting
to the total extirpation, especially in women who have not
passed the menopause.

Cystocele.—After the "heaving" of the uterus a vibratory
pressure is applied to the inferior branch of the pudic nerve,
beginning at the perineum and passing forward on the external
side of the labia majora; next the protruding part is stroked
upward and inward with the tip of the index finger, using firm
vibratory pressure, care being taken to avoid the urethra; this
is done several times on either side of the latter canal.

Rectocele.—After lumbar and sacral percussion, which
should be used before the liftings for any condition, to be re-
peated, however, after they have been made, the heaving of the
sigmoid flexure is done, as follows: The patient being in the
usual position on the lounge, the physician stands on her right
side, placing his left hand on her right shoulder. The extended
right hand is placed to the inner side of the left iliac crest, and
is pushed inward and downward deep into the pelvis with a
vibratory motion; now the two distal phalanges are slightly
curved, and the pelvic contents with the abdominal coverings
are pulled in an upward direction as far as possible, with a vi-
bration. The same movement is used in prolapsus recti.

Next follow lifting of the uterus and vibratory pressure on the
hypogastric plexus. Brandt uses the latter in conjunction with
pudic pressure after uterine liftings for other purposes. He
also requires his patients to use a vaginal douche, night and
morning, of about half a pint of cool water.
The displacement least amenable to treatment is anteflexion, particularly if congenital, although the latter rarely gives rise to trouble. Yet my results have been fully as good with Brandt's method as any other mode of treatment. The success depends on the condition of the cervix at the point of flexion, just as it does in posterior deviations. If the muscular structure at the flexure is not too much atrophied, there is hope of effecting a cure; but cases where the point of flexion is stiff and cartilaginous, and little or no muscular structure left, as we not infrequently find it in congenital flexions, cannot be cured by any form of treatment. The treatment is to introduce the finger anterior to the cervix first, and use massage on the posterior surface of the flexed point, also light massage on the body; next the internal finger is placed behind the flexion angle, either per vaginam or rectum, whichever is most suitable in the respective case, pressing the part well forward, when the external hand can usually without great difficulty retrovert the body by pushing the fingers behind the symphysis and under the corpus, gradually raising it up, and finally throwing it into a posterior displacement; now the massage is used anteriorly with very light pressure at the point of flexion. Sometimes I have succeeded more readily in retroverting the uterus in extreme anteflexion by the introduction of the index finger of one hand into the rectum, pressing the flexion angle forward, and with the finger of the other hand into the vagina push the body upward as high as possible so that the organ is almost straightened, in which position it can be held for a moment with the rectal finger, so that now the body can be retroverted without difficulty with the free hand. I have been able to cure one patient with the method described, who had, on account of the existing intense dysmenorrhoea, been under treatment a number of years in intervals varying from four to six months.

A most gratifying result is obtained by Brandt's method in some cases of incontinence of urine, when dependent on relaxation of the vesical sphincter. With his permission I will briefly cite the most interesting case of the kind observed by me:

The lady, a resident of Berlin (Germany), had been under treatment of some of the most eminent gynecologists. Varied treatment, dilatation of the urethra, electricity, etc., had been used without success, and she had already resolved to undergo a proposed operation to relieve her, when an Austrian gynecologist
with whom the family became acquainted on a pleasure tour, and to whom her trouble had been confided, requested her to see Brandt on their return trip. The patient arrived there with her husband and the medical gentleman on August 10th, and with her permission, which was given through the interceding of my Austrian colleague and her husband, I was permitted to examine her and elicit the following history. Of course I also watched the treatment and followed the case to the end.  

Age 32 years; married nine years; had one child eight years ago, normal labor; no miscarriage; menstruation began at 14 years; complains of hypogastric pain and a bearing-down sensation; lumbar pains; no pain in the inguinal regions; cold hands and feet; headaches. The pains are variable as to time and severity, and are entirely independent of the menstrual flow, which is regular every four weeks, painless in quantity and quality, lasting two days. Slight thick leucorrhea; bowels regular. The urine voided on rising in the morning is normal in every respect. For the past six years she has been utterly unable to retain urine the moment she was on her feet; the trouble came on gradually after birth of the child.

The uterus is in normal position; freely mobile; slight laceration of the cervix and some hyperplasia of the organ; the right ovary is sensitive (slight oöphoritis), the left normal; tubes normal; the ureters are palpable and apparently healthy. Treatment was commenced on the same day.

On August 14th she feels better and is able to retain her urine for two hours.

August 16th, uterus not so hard and ovary not so sensitive; she retains urine from 8 A.M. to 2 P.M.

August 18th, she receives the last treatment, and, feeling herself perfectly well, is discharged a well woman.

The treatment, besides some gymnastic movements, consists in percussion of the lumbar and sacral regions in the manner already described; then the alternating bladder-shaking is done, as follows: The patient lies on her back in a semi-prone position, with the thighs and legs flexed as for examination; the operator holds his fingers and hands stiff as for uterine lifting, and places them in the hypogastrium by the sides of the bladder, and makes alternately with each hand a slight vibration in an upward direction, as though intending to lift the viscera upward and forward. Following this, such other gymnastic movements are given as may be indicated; then the local treatment of the uterus, if such is necessary. This done, we use the perhaps principal treatment for the vesical trouble. The left index finger is introduced obliquely, slightly bent to surround the neck of the bladder; the other three fingers are
closed upon the thumb, which is turned into the hand, and the free hand is placed around the wrist of the employed hand to better regulate the pressure to be used; now the finger is caused by all the forces combined to make a vibration against the neck of the bladder, pressing moderately against the symphysis; this is repeated three or four times, and then with the right index finger the opposite side of the neck is treated likewise. Exercises of the adductors (and also of the abductors, if required) of the thigh are given, to be followed again by percussion of the lumbar and sacral regions, etc.

I, too, have had several brilliant results in such cases. One may serve as an example in which this treatment alone was used. The patient, æt. 58 years, had incontinence two years; after the fourth treatment she could retain her urine over an hour, and in less than four weeks was entirely cured. Two children, 9 years old, suffering with the malady, were cured by me in three weeks, and the first four and five séances respectively were devoted to gymnastic exercises alone.

In children and virgins, however, we use the index finger against the neck of the bladder per rectum instead of per vaginam. In cases of contraction of the bladder, which results in some cases of complete incontinence, I add dilatation of the viscus with water, as practised by Nissen, of Christiania. For this I use Knestner’s bladder-irrigating apparatus—which can be secured of J. Reyners & Co., of this city—and fill the bladder to its utmost extent. When the patient complains of much pain, the inward flow is stopped, and after the lapse of a few minutes a little more water is allowed to enter. This treatment is also used daily. Dr. H. Marion Sims recently read a paper before the New York Obstetrical Society in which he advocated this form of treatment (dilatation of the bladder with water for incontinence) without the knowledge that it had been used previously by others. Sims uses a Davidson syringe to fill the bladder, and I can indorse the superiority of this over the glass-irrigating bottle from subsequent experience.

My personal experience with the manual treatment is that cases of posterior displacement of long standing are exceedingly difficult to cure, especially if sharp flexion angles are present. I have been unable to satisfactorily cure a case of the latter variety, although the attempt has only been made with three such patients. I also prefer the introduction of a suitable,
pessary after the treatment, if the body of the uterus does not tip over the upper bar, because the manual replacement causes more or less pain in most cases. If there is a flexion which cannot be benefited by the manual treatment in a few weeks, and in which a pessary is useless and the symptoms return (for they always disappear by this treatment properly used, even though it be temporary), I should do the Adams-Alexander operation rather than waste months of time and be perhaps disappointed in the end. By benefited I mean, for instance, if a patient cannot wear a pessary and we use the manual treatment alone, if the uterus then after a number of sèances is found to remain in normal position, even though only occasionally, we should not be discouraged, for eventually we are apt to be rewarded by a complete cure.

With cystocele and rectocele, if no improvement takes place in four weeks it is useless to continue. One patient was treated eight weeks daily by myself and my assistant without benefit. In such cases operative measures should be used. I have succeeded, though, in curing one patient 60 years old in a few weeks, who had prolapse of the anterior vaginal wall, the protrusion outside of the labia larger than a hen's egg and of two years' standing. After the lapse of three months there has been no return of her trouble. It is also very difficult to eradicate the vaginal prolapse accompanying procidentia.

Procidentiæ, however, provided the muscular structures holding the uterus are not too much atrophied, yield a most happy result. Three such cases are on my record. One especially worth mentioning was a young woman with complete procidentia, retroflexed uterus, prolapse of the anterior vaginal wall, and a laceration of the perineum extending to the sphincter ani. She was cured in every respect regarding the displacements and the accompanying symptoms, despite the perineal tear. This case and the previous one mentioned were shown to several of my colleagues in the German Poliklinik, before treatment began and after a cure had been established. An other equally remarkable case was one which I treated in Christiania under Nissen's supervision. The patient, a peasant was 65 years old, in poor health (chronic rheumatism). She had had two children, and a partial prolapse ensued after the birth of her first child. Complete prolapsus occurred after the birth of the second child twenty-three years ago. Dr. Nisse
Treatment in Gynecology.

had not attempted to reduce the dislocated uterus, which was in condition of senile atrophy, on account of her general poor health and the inability of the patient to abstain from physical exercise, but satisfied himself with treating the extensive erosions which were present with local applications. He kindly permitted me, however, to treat the case. After the first treatment the womb did not again protrude from the vulva, and after the fourth it remained in normal position and the erosions rapidly disappeared without further local treatment. This patient resided outside the suburbs of the city, so that she had over an hour's walk to come to Nissen's office. His nephew, Dr. Christian Nissen, recently informed me on inquiry that the cure was permanent, she receiving treatment for only a few weeks after my departure.

How the method brings about a cure in displacements, especially of procidentia, has been studied by me since the time of my acquaintance with it, both on the living subject and the cadaver, and I have come to the conclusion that we must look to various factors for the reason. B. S. Schultze, I was told, considers the only cause to be the contraction of the sacro-uterine ligaments; and if we open the abdomen in a cadaver and pull the uterus forcibly down with vulsellum forceps, we find that the most appreciable strain is on these ligaments, but at the same time all of the attachments are put to some tension, and it therefore seems to me that the strengthening of all the muscular tissue in connection with the uterus acts as a factor in bringing about the desired result. That the exercises of the adductors are an important factor in hastening the cure there is no doubt in my mind. Von Preuschen in his articles endeavors to prove that it is the sole factor, yet cures by Brandt and Nissen have been produced previous to the introduction of these exercises; at the same time I grant the correctness of Von Preuschen's observations as to the effect of these movements on the pelvic floor.

I hardly need say that the result in the treatment of pelvic exudations is excellent in the majority of cases. The benefit of a somewhat similar treatment has been recognized by many others, and is frequently put into practice both here and abroad.

To close, I will add one case of salpingo-oöphoritis. The patient had a pathological anteversion; the right ovary was
attached by adhesions to the brim of the pelvis backward, enlarged and very sensitive; the tube was also enlarged and tender. The left tube and ovary were in the same condition, with the exception that the gland was not so far back. She had been a constant sufferer for six years, and two prominent colleagues had proposed the removal of the tubes and ovaries. She was treated daily for two months, the séances varying from half to three quarters of an hour, with the result of a complete cure, and none of the old symptoms have so far returned; but, as yet, only three months have elapsed. Still my experience has been that relapses of symptoms return in from two to eight weeks, if they return at all. A fresh exciting cause, however, may produce a recurrence at any time.

It is to be sincerely hoped that the profession will give the subject the attention of which it is worthy, so that by accumulated experience we may arrive at definite conclusions with regard to the indications and contra-indications.

INTRA-UTERINE THERAPEUTICS.

BY
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(Continued from page 457.)

Limitations and Dangers of Intra-uterine Medication.

The practical experience of every physician cannot fail to furnish abundant illustration of the possible dangers of intra-uterine medication. The present paper is based upon the analysis of 50 cases where intra-uterine medication was used. Of these, 39 were cured of pelvic symptoms without accident; 2 were cured in spite of the occurrence of accidents; in 1, great benefit was derived from the treatment; but finally the occurrence of accidents threw the patient into a condition only somewhat superior to that which had preceded the treatment. In 1 the very first attempt at treatment induced an inflammation,
from which, indeed, the patient rapidly recovered, but after which the treatment was not renewed; in 1 case peritonitis occurred and proved fatal; finally, in 6 cases intra-medication failed to relieve the patient, and was soon abandoned. Thus there were 42 cases of marked benefit, 6 cases of no benefit, 1 of immediate bad effect, and 1 death. These brief statistics are hardly of any practical value; but when subjected to analysis, may be, I think, rendered much more instructive than unanalyzed numbers on a much larger scale.

The summary of the seven cases of accident is as follows:

**Case I.**—Multipara, widow; rapid development, *i.e.*, in the course of three months, of an endometritis with remarkably extensive hypertrophy of gland tissue throughout the uterus; correlative metritis and flexion—the whole history suggestive of gonorrheal infection, which, however, unless accidental, seemed entirely excluded by the character and position of the patient. Previous to sudden development of leucorrhœa, uterine system remarkably healthy, but the patient had for months suffered from progressively increasing anemia and frequent attacks of biliary colic. Four months previous to treatment, undefined febrile illness out West, and on return to New York, two months previous to treatment, patient exhibited signs of fatty degeneration of the heart, which may very possibly have been a part of a pernicious anemia. The latter possibility was not at the time taken into account, but the condition of the heart was thoroughly appreciated. Two months' constitutional treatment and the rectification of the uterine displacement by a pessary having failed to improve the patient's condition, treatment of the uterine catarrh was added to the other: applications of iodized phenol made on a probe to the entire uterine canal. The first was immediately after a menstrual period; the second, a week later; the third, after the succeeding menstruation, but not immediately, so that the fourth came two weeks after menstruation. The first three applications were perfectly well tolerated, and when the time came for the fourth the uterine catarrh was somewhat diminished. The fourth application was made in exactly the same manner as the others, like them causing no pain, and after it the pessary was replaced. Three or four hours later the patient began to suffer pain, but omitted to remove the pessary as she had been directed to do in that contingency. By the next morning a well-marked pelvic peritonitis was established which, though localized, caused the most excruciating pain. To calm this, and to avert if possible the effect of shock on the heart, hypodermics of morphine were given, not more freely than is customary. Nevertheless, the patient died on the third day in a form of collapse that was probably as much due to the effect of the morphine on the heart as to the perito-
nitis, which had not, as the autopsy showed, become generalized. The heart was extensively degenerated; the gall-bladder filled with calculi. The uterine mucosa throughout showed a glandular hypertrophy so considerable that on a microscopic section the lamina of the glands were visible to the naked eye, giving the section a honeycombed appearance.

The foregoing case has been related at some length, because it is the only fatal one, and because the conditions deciding the fatal issue were so complex. The circumstance that was probably the exciting cause of the peritonitis was the replacement of the pessary immediately after the intra-uterine application had been made, or its non-removal when the pains began. The three following cases illustrate the importance of this circumstance:

Case II.—Unmarried girl of 20; healthy looking, blooming nutrition; violent spasmodic dysmenorrhea for years; no intermenstrual pains, but permanent cerebral paresthesias, headache, and mental inability. Uterus found retroflexed, fundal endometrium sensitive and vascular, ovaries not perceptible. Gradual replacement of uterus by boroglycerated tampons, then a pessary well tolerated for two months, but giving little relief to the symptoms. The dysmenorrhea, however, was much diminished by the use of cocculus. In the third month a post-menstrual application of carabolic acid and glycerin was made to the fundal endometrium, the pessary being then replaced, the patient being in bed. The following menstruation was less painful, and the headache diminished, the latter, however, seeming especially affected by the administration of the tartrate of iron and ammonia.

In the fourth month a second carabolic acid application was made, and the pessary replaced as before. Severe pain set in, which the patient failed to control by opium suppositories, because she placed these in the vagina instead of rectum. After twelve hours the pain subsided, to return with violence when the patient had gone to her home in the country a few miles from New York. Not notifying me or any other physician, she continued to suffer for forty-eight hours, when removal of the pessary brought immediate relief. A few days later the tissues surrounding the vagina and uterus seemed diffusely swollen to the exploring finger; swelling which gradually subsided without being attended by fever or followed by exudation. The patient was kept in bed with appropriate treatment until after the following menstrual period, which was free from cramps but attended by much bearing-down pain. Examination after this found the retroflexion partly reproduced, and an ovary prolapsed into the cul-de-sac of Douglas.
Case III.—Girl of 19. Inherited lithemic constitution; permanent flushing of face, implying a relaxed condition of blood-vessels that seemed to be the immediate cause of both the headaches and uterine conditions from which the patient suffered. There had been violent tetaniform dysmenorrhea from the beginning of menstrual life; the uterus was retroflexed, the cervix swollen, endometrium sensitive and vascular, and there was considerable periuterine tenderness on pressure, evidently generalized pelvic hyperemia without localized inflammation. The displacement was gradually rectified, a pessary finally introduced and well tolerated, but no special relief was afforded to the dysmenorrhea. The hyperesthesia entirely disappeared; the periuterine tenderness remained limited to a single spot, only reached by very deep pressure behind the uterus. After three months, single post-menstrual applications to the endometrium were made of iodized phenol after previous stretching of the os by steel dilators. On the first two occasions, though a good deal of pain was felt at the time, it soon subsided. On the third, however, the pessary having been replaced as before, a violent colic ensued, only calmed by hypodermic injections of morphine, and followed two or three days later by the appearance of a limited retro-uterine swelling. This soon disappeared, and, after a certain amount of treatment by periuterine applications of iodine, all objective symptoms entirely disappeared, and indeed all intermenstrual disturbance but a headache of greatly diminished severity. The dysmenorrhea cramps persisted, but seemed to be finally controlled by cocculus indicus.

Case IV.—Unmarried girl of 20. Vigorous constitution, but subject for several years to severe spasmodic dysmenorrhea and violent headaches. Examination discovered retroflexion of the uterus with generalized endometritis. The retroflexion was gradually corrected, and the dysmenorrhea and headaches both diminished, especially the latter. After two or three months, a carbolic acid and glycerin application was made to the endometrium. There was little pain at the time, but in half an hour after replacing the pessary the patient began to suffer very severe pains, which lasted ten or twelve hours. They then permanently disappeared. During the intermenstrual period the patient felt better than she had done since the beginning of treatment, but the menstruation was rather more painful than the one just preceding. After this period, the endometrial catarrh was found greatly improved. A second application was made, but the pessary was not replaced for twenty-four hours. The patient then suffered no pain at all.

The accidents in such cases, which may thus vary so greatly in severity, evidently depend upon a temporary intolerance to the pressure of the pessary caused by the immediate consequences of the intra-uterine application. These consequences
are a collateral perinterine hyperemia and uterine contractions. When the latter occur, or at all events when they are severe, the contraction probably extends to the tubes. Any secretion present in the tubes is then liable to be squeezed out into the cul-de-sac of Douglas and there irritate the peritoneum. If the secretion be moderate, the product of a non-specific catarrh, the irritation soon subsides under the influence of rest in bed and an opium suppository. If, however, the hyperemiated peritoneum be further irritated by the presence of a pessary whose bow presses in the cul-de-sac, the irritation is more serious. Finally—a circumstance that I have never seen noted—there is much greater liability to irritation when the intra-uterine application is repeated twice in the month, or even three months in succession. This fact, that can be sustained by abundant examples, is illustrated in three out of the foregoing four cases, and implies that the collateral hyperemia induced by two successive applications does not completely subside. There is, however, a great difference between the cases where symptoms of pelvic congestion persist through the month, indicating a simple collateral venous hyperemia, and the cases where all intermenstrual symptoms completely subside and the patient feels better, nevertheless exhibits an increased vulnerability at the next post-menstrual period.

I think this fact can only be explained by the theory of intermenstrual growth of the utero-ovarian plexuses—a theory needed to explain the greater and often-marked danger of intra-uterine applications in the "premenstrual week." The impression made on the receiving or sensitive surface of the reproductive are determines an increased growth of the plexuses, the reproductive nodes or reservoirs. This growth, like that of pregnancy, is unaccompanied by any sensations of pelvic distress, but renders the reproductive system more vulnerable to interference, precisely as it would be in a pregnancy. Cases like the above are among those which justify Dr. Emmet's remark: "We must regard a displacement of the uterus as a symptom." It is scarcely logical, however, to say, "a symptom merely"; for, like many other secondary morbid conditions, if it be the consequence of a condition that has preceded it, and which, persisting, remains of great importance, the displacement be-

1 See "Studies of Endometritis," AM. JOUR. OBSTET.
2 Gynecol. Transactions, 1888, p. 70.
comes a cause of many other morbid conditions, and tends, moreover, to aggravate the very conditions out of which itself has sprung." It is evident, however, that a practical rule of safety demands that after a pessary has been withdrawn for the purpose of making an intra-uterine application, it should rarely be replaced under twenty-four hours.

**Case V.**—Married woman, æt. 38, mother of six children, of whom the youngest was 3 years old. Subinvolution metritis dating from last confinement. Treatment by imitation Kreuznach baths, and applications to uterine canal of 50% sol. nitric acid. Immediate and marked improvement to all symptoms, and treatment interrupted, some months later resumed. On second occasion, immediately after application, patient remarked that her menstruation was due in two days. Severe pain at once set in, and an acute endometritis of two weeks' duration, without peritoneal complication. Recovery. Pregnancy two years later; birth of seventh child at age of 43.

**Case VI.**—Married woman, æt. 37. Some subinvolution metritis since birth of fifth child, two years before consultation. Local symptoms slight, cerebro-spinal neurasthenia prominent. Ineffectual treatment by tonics, afterwards by Weir Mitchell’s rest cure. Local applications to endometrium of iodized phenol, once a month, other treatment continuing, followed by immediate and marked improvement. On one occasion, application repeated in middle of month, followed by severe colic for some hours; but after this, patient felt much better than before. Treatment interrupted for two months, then resumed. In second month of new treatment two applications also made, the second, by a misunderstanding with the patient, only a week before an expected menstruation. This was followed in a few hours by pain, which, continuing to increase during several days, ushered in, at the date of menstruation, an attack of parametritis with extensive exudation, from which the patient made a good recovery.

The fifth and last case of accident is as follows:

**Case VII.**—An unmarried woman, of robust constitution, and hitherto excellent health, began at the age of 37 to complain of constant dull pain in the left ovarian region, associated with much nervous irritability, and attacks of acute pain on the fourth day of menstruation. After some months the uterus became moderately prolapsed. Relief to the subjective symptoms was very imperfectly afforded by a cup pessary, but was marked after the use of cotton tampons saturated with glycerin and tannin. The passage of the faradic current through the left side of the pelvis

also always dissipated the symptoms for a time. After two or three months the patient returned to her home in the country, but came back some months later, complaining as before. On a new examination, made in the middle of the intermenstrual period, a probe was passed to the fundus uteri, where the endometrium was found sensitive and vascular. An application of iodized phenol was then made with the probe. It was not painful, but the patient was instructed to go home at once and lie down. Instead of doing so, she went on a shopping expedition, and after some hours was seized with severe pain, which ushered in an attack of peritonitis, with tolerably extensive exudation. The patient, however, made a good recovery.

This case was obscure to me at the time.

I should now look upon it as a generalized neuro-paralytic hyperemia of the ovarian bulb, probably starting from a fundal endometritis. Intra-uterine medication carried out systematically and thoroughly would probably have effected a cure without accident, whereas the incautious single application made at the office resulted in accidents without cure.

The following summary of nineteen typical cases, presents a correct picture of the results of intra-uterine medication, when, as is usually the case with proper precautions, this is unattended by serious accidents, and results in benefit or cure:

Case I.—Married woman, at. 25, sterile after three years marriage.
Dysmenorrhea since first menstruation. Prostration for several days during premenstrual period. Cervix uteri swollen, red. Probe causes great pain, no bleeding. Much tenderness upon pressure in left cul-de-sac.

Diagnosis.—Metritis, with swelling of parauterine veins and of ovarian bulb. Fixed pain in left ovarian region of hypogastrum.

Local Treatment.—March 17th, 1880, April 20th, September 27th. On each occasion application of carbolic acid and glycerin to internal endometrium, on the first occasion after a sponge tent, on the second after a tupelo tent, on the third after the passage of two steel dilators. In addition application of Vienna paste over painful spot in hypogastrum, which immediately and permanently removed this pain. Then succession of blisters near groin.

Result.—Marked diminution of premenstrual pain after first application, and restriction of dysmenorrhea to two days instead of four. During this time pain as severe as ever. After second application, premenstrual pain only one day and very moderate, dysmenorrhea only one day. The second month after this application, premenstrual and menstrual pain both greatly diminished. Patient much stronger and better. This in June. In Septem-
ber, the fourth month after second application, and after a
summer in country, with much rowing exercise, patient had a
completely painless menstruation. Cervix uteri still swollen,
spotty in color, red ring around os. Much less pain on passing
probe. No pain on pressure in left cul-de-sac. The third applica-
tion was then made, followed in two weeks by scarifications of
cervix, hot baths, hot injections, blisters. Then followed two
months of anxiety, and nursing of a sick father; and menstrua-
tions of each month were painful. Second set of local applica-
tions were made, December 4th. 1880, January 4th, 1881, Feb-
uary 17th, February 23d, March 17th, March 25th, April 20th,
April 28th, May 19th. Until April 20th the applications con-
sisted as before of carbolic acid and glycerin. These on
January 4th, February 17th, and March 25th, were made at the
office with a probe, without previous dilatation. On all other
occasions the applications were made at the patient's house, and
preceded by either laminaria tents or steel dilators. The last
three applications were made with the iodized phenol, and at the
house after use of steel dilators.

The menstruation following the local treatment in December
was free from pain. In February there was a delay of ten days;
then profuse and painful menstruation. Possibly an early mis-
carriage. Preceding local application of February patient
began to receive rectal injections of 5 i. fl. ext. ergot each night
and returned to hot sitz baths. Intermenstrual scarification of
cervix, already made in January, was repeated in March. March
menstruation almost free from pain. Sitz baths, imitation
Kreuznach water. At end of March cervix much reduced in
size. Passage probe causes no bleeding. On March 25th, car-
bolic acid and chloral application at office. Increase of pain on
menstruation of April 12th. On April 20th was made the first
of the three applications of iodized phenol. Cervix (a week later)
nearly normal in appearance. But for first time appearance of
tenacious catarrhal secretion; this seemed to result from stimu-
lation of glands by iodine.

The application was repeated on the 28th; thus two were made
in one month, and the succeeding menstruation had pain for
only half a day. But when, immediately after this period, a
third application was made, the patient suffered from symptoms
of prolonged pelvic hyperemia, backache, hypogastric pain, in-
creased leucorrhoeal discharge, return of dysmenorrhea at follow-
ing menstruation.

Treatment interrupted for several months, and from June till
November the patient was free from pain or dysmenorrhea.
The latter returned in November and December. In January,
1882, just two years from the first treatment, sponge and lami-
naria tents, followed by applications of pure carbolic acid. Vio-
 lent colic after laminaria tent, until its expulsion; but next
menstruation quite painless. Repetition of treatment in Feb-
uary and March, but with sponge tent alone, followed by sub-
idence of all morbid symptoms, including the sensitiveness over the left horn of the uterus, which had hitherto been persistent. Treatment was then permanently suspended, and patient has remained quite well since, though she has never conceived. The total treatment lasted from March, 1880, to March, 1882, with interruption from June till September in 1880, from May till October in 1881.

The foregoing case demonstrates clearly one fact that at first sight might seem improbable, and whose possibility was entirely disputed during the discussion which followed the reading of this paper at the Academy of Medicine. This fact is the decided and marked effect produced upon the menstrual period which occurred three weeks after a single intra-uterine medication. When this medication was succeeded by a summer in the country, spent in the open air, and with much exercise in rowing, the improvement was maintained for three months. But when in the fall the same treatment was followed by two months' fatigue and anxiety, it had no perceptible effect. The explanation is that, in the first case, the conditions served to maintain the increase of arterial tension initiated by the intra-uterine treatment; in the second case, by exhaustion of cerebro-spinal nerve centres the arterial tension tended to fall, and thus the effect of the medication was counteracted. Rowing is an exercise that cannot be too highly recommended in chronic uterine disease, where walking is so often impossible or plainly injurious. When there is ovarian or peritoneal complication, the mechanical movement communicated in walking to the pelvic organs is injurious. In non-complicated metritis, the swaying of the abnormally heavy uterus during the same exercise seems to fatigue the muscular tissue which supports it, and the expenditure of the nerve force of the lumbar centres of the spinal cord, through innervation of the limbs, seems to diminish by so much the spinal innervation of the pelvic organs and their blood-vessels, thus lowering the tone of the latter and facilitating congestion. Exercises of the upper limbs, which expand the thorax and deepen respiration, facilitate the aspiration of venous blood from the pelvis without exposing the patient to the inconveniences entailed by walking.

Another point to notice in the above case was the unfavorable effect produced by an office application (carbolic acid), and also by a repetition of local applications (iodized phenol) in close succession, though at the house; this on the 20th and 28th
of April, and immediately after the following menstrual period. The dysmenorrhea, which had been reduced to a minimum, returned, preceded by intermenstrual pain for three weeks.

The most powerful and permanent results were obtained after the use of tents, which caused at the time a severe attack of uterine colic. This aroused the contractility of the uterine fibre to a marked degree. When this colic depends simply on the presence of a foreign (and aseptic) body in the cavity of the uterus, and subsides upon its expulsion, it seems, for the reason suggested, to be decidedly beneficial. The colic following intra-uterine injections is of a different nature.

Case II.—Æt. 37; married; three children; scrofulous, lymphatic constitution. Obesity; weight one hundred and ninety pounds. Fat anemia; general neurasthenia; severe dysmenorrhea, prolonged premenstrual pain, and menorrhagia; constant tympanites and constipation: uterus subinvolved; cavity measured nine centimetres; much vesical tenesmus; former treatment out West, by caustics to cervix, had almost closed os externum. This required incision.

Oct. 26th, 1881. Abundant granulations removed from uterine cavity; pure carbolic acid applied. Four days later, abundant bleedings (on separation of eschar). Ring pessary to support heavy uterus. Rigid meat diet, gluten bread, restriction of fluids, cold pack, and massage.

Nov. 15th. Weight one hundred and eighty pounds, thus loss of ten pounds. Much less nervous: improvement in sleep; less dragging at hips.

Dec. 1st. Weight one hundred and seventy-two pounds.

Dec. 13th. Second menstruation since local treatment; lasts four days instead of eight; nitric acid, fifty per cent, to internal endometrium.

Result.—Nausea and flatulence; menstruated in Jan., 1882; flow profuse.

Feb. 24th. Weight one hundred and fifty-four and one-half pounds. Takes, in addition to above, sitz baths and hypodermic injections of ergot; much less bloating of bowels.

March 9th. Menstrual flow normal in quantity, but excessively painful.

April. Menstruation with scarcely any pain.

On May 13th. June 5th, July 1st, and in August, uterine applications of iodine were made on a probe. The first two were intra-uterine and without dilatation; the last two were made to the cervix alone, and preceded by sponge tents.

Sept. 18th. Menstruation without pain for several hours, then severe cramps for an hour or two. After this period, uterus seemed quite healthy. Probe passed between seven and eight
centimetres, caused neither pain nor bleeding on touching fundus. In November, improvement still maintained, and absence of dysmenorrhea and menorrhagia. No local treatment after August. Constitutional treatment continued all winter at patient's home in the West, with addition of horseback riding. Complete recovery.

Case III.—Æt. 35; Jan. 19th, 1882; unmarried. Severe dysmenorrhea dating from a few months only, then gradual extension of pain to intermenstrual period. Fundal endometritis. Patient had been kept in bed for about two months before consultation; applications to cervical canal.

Feb. 13th. Carbolic acid and glycerin to fundus on a probe; moderate pain afterwards.

Result.—Two days later patient feels much better. In eighteen days, hypogastric pain all gone; some pain in sacral nerves. In thirty days, patient claims to "feel splendidly."

March 15th. Repeat application; hardly any pain.

April 15th. Repeat; some pain for four hours; following menstruation quite painless for several hours, then quite severe pain.

May 15th. Chromic acid application, twenty per cent. No dysmenorrhea until October, and entire disappearance of intermenstrual pain.

Oct. 28th. Reports some dysmenorrhea at last menstruation; applied carbolic acid and glycerin to fundal endometrium. After this, treatment permanently interrupted, and patient remained well.

The foregoing is a typical case of a large class. Menstrual subinvolution of the fundal endometrium results in its hypertrophy, hyperemia, and attendant paresthesia of the uterine nerve, with dysmenorrhea, permanent local pain, and irradiated hysterical nervous disturbance. The effect of the local applications is to destroy the thickened endometrium, and provide for a more complete involution at the next menstrual period. There being no parenchymatous metritis, the cure is rapidly effected.

The following is an analogous case, and though in a much younger patient, is of much longer standing and complicated by a flexion.

Case IV.—November 11th, 1885, girl aged 17.
Severe dysmenorrhea from first menstruation. Constant dragging backache for a year. Uterus found retroflexed, drawn to left side. Cervical catarrh, with moderate swelling of cervix, and abrasion around os.

After preparatory treatment with cotton tampons, a pessary was introduced December, 1885. This was worn for two months,
but, though the flexion was rectified, little relief was obtained for the symptoms.

February 1st, 1886.—Intra-uterine application iodized phenol after passage steel dilators.

Result.—Much pain for half hour. But then marked diminution of backache, and succeeding menstruation painless.

March 2d. Repeated application; more pain at following menstruation, but no cramps. Then applications iodine to vault of vagina twice a week.

Very little dysmenorrhea at April menstruation, none at May. Catarrh almost disappeared, abrasion skinned over. No return of dysmenorrhea during summer, and in October cervix found quite healthy; cure remained permanent; pessary, however, continued. That the rectification of the flexion was not sufficient to effect this cure is shown by the persistence of the symptoms, almost unchanged during the first two months after the pessary was worn. The second intra-uterine application was followed by some hyperemic swelling of the peritoneal tissue, but this rapidly subsided under iodine.

CASE V.—Unmarried, æt. 28. Prolapsus and retroflexion uteri discovered in November. Patient had lifted heavy weights in July, and had not been well since.

Pessary adjusted in November. In January, displacement found completely rectified, backache entirely relieved. Following July, patient suffered pain, leucorrhea, and strength much debilitated. Tonics were given during summer.

September 20th. Intra-uterine application iodized phenol after steel dilators.

Result.—Patient immediately felt much better.

October 19th. Second application. Continued improvement in general health, over which patient was quite enthusiastic.

November 16th. Third application. Separation of an eschar attended by considerable pain and bleeding. But after this patient felt quite well.

CASE VI.—Unmarried, æt. 24. Robust. Severe dysmenorrhea for three years. Permanent pain in sacral nerves. Internal endometritis, cervix swollen, canal dilated, and catarrh abundant.

December 1st. Application iodized phenol at house with Braun’s syringe. Severe cramps for an hour or two. Next day, pain over sacrum all gone. Remained in bed three days.

Result.—On December 8th, “feels immensely better.” On 18th, menstruated without pain. On January 4th, cervix much less swollen, canal contracted, leucorrhea diminished. Much less pain and no bleeding on touching fundus. Repeat application. Again severe cramps occurring half hour after application. Patient remained in bed two days.

January 25th. Reported entire freedom from backache; menstruation painless; cervix almost healthy. Treatment suspended.
The occurrence of severe pain, indicating uterine cramps, half an hour after the application has been made, is very common; indeed, much more so than the immediate occurrence of pain. The uterine parenchyma is thrown into contraction when the effect of the cautery, extending through the endometrium, finally reaches the first, the subendometrial layer of muscular fibres. This "extension of effect" can only be explained by the immediate impairment of the vitality of some layers of the endometrium, which then becomes an irritating foreign body, and by the active hyperemia consequent upon an impression on the spinal filaments of the uterine nerve. The uterine cramp is innocuous; but if the wave of tetanic contraction extend to the Fallopian tubes, secretions may be squeezed into the cul-de-sac of Douglas, and a localized hyperemia or inflammation be set up.

This accident seems to have occurred in the following case:

Unmarried girl, æt. 20. Very violent cramp-like dysmenorrhea for several years. Constant dull headache for a year. No local intermenstrual pain. Uterus retroflexed. Uterus gradually replaced by tampons, then a pessary, which was well tolerated. After two months, symptoms little changed.

April 2d. Immediately after a menstrual period, at the patient's house, three or four steel dilators passed, then application carbolic acid and glycerin to fundus.

Result.—After two months, symptoms little changed. Successing menstruation less painful. Operation repeated in May. This time very violent cramps occurred immediately upon application. The opium suppositories ordered to relieve these cramps were placed by the patient in the vagina instead of the rectum, and no anodyne effect obtained. In twenty-four hours some relief; patient took hour's journey to country home; pains returned with great severity for twenty-four hours, till it occurred to her to remove the pessary. This gave immediate relief, but twenty-four hours later I found a moderate exudation in the post cul-de-sac. By rest in bed and ice applications the localized peritonitis rapidly subsided; patient remained recumbent the greater part of the next two months, but menstruated without any pain. In September was put upon ergot, by which the headache was for the first time greatly relieved; boroglycerin tampons were again applied, the position of the uterus rectified, and the patient remained free from dysmenorrhea or headache.

In the foregoing case it would seem that the Fallopian tubes had been emptied of secretions long accumulated in them, and that after this the salpingitis, upon which perhaps the symp-
Jacobi: Intra-Uterine Therapeutics.

toms had chiefly depended, permanently subsided. The cure, therefore, was due to this accident, which might have proved dangerous, rather than directly to the treatment.

Case VII.—Æt. 19. Backache and inability to walk for a year. Nausea. Inability for mental exertion. No dysmenorrhea. Some congenital anteflexion; cervix red and swollen; canal dilated; abundant catarrh. Passage probe to fundus causes pain and bleeding.

Nov. 20th. Steel dilators, then chronic acid application.

Result.—No pain, but for two days less ability to stand. At end of a week feels better, back stronger.

Dec. 12th. Find tenderness in left cul-de-sac, increased by drawing cervix to right. Cervix less swollen, leucorrhea diminished, but evidently peritoneal hyperemia had resulted from application. Iodine to vault of vagina every two days. Massage and cold pack.

Dec. 23d. Peritoneal swelling gone. Canal much contracted, but intense red rim around os. Menstruated on 29th with much less prostration than heretofore.

Jan. 8th. Intra-uterine application iodized phenol.


Jan. 30th. Third intra-uterine application (iodized phenol). Rather sick and miserable for six to seven hours, then felt much better throughout the month. No post-menstrual backache; cervix almost normal on Feb. 25th. Peritoneal iodine and to cervical canal.

March 6th. No leucorrhrea. Bismuth and glycerin to cervix.

April 23d. Fourth intra-uterine application. Remained very well all summer. Some slight return of symptoms in winter was readily dissipated by recurrence to same treatment. Throughout the patient was treated with cold spinal douches, cold hip baths of two minutes' duration, and for a long time by rectal injections of ergot. She had massage for several weeks.

Case VIII.—Married woman. æt. 32. For six months, violent hysterical spasmodic affections of various kinds; ovarian irritation, neuralgias in pudic and gluteal nerves; cervix uteri swollen, transparent; catarrh, violent "bursting" premenstrual headaches, relieved by flow. No dysmenorrhea.

Nov. 16th. Carbolic acid and glycerin to fundus on a probe.


Dec. 2d. Leucorrhrea much diminished; only one "nervous spell"; cervix smaller and paler. Passage probe to fundus painless; scarcely any bleeding.

Dec. 3d. Repeat carbolic acid, chloral, and glycerin. Violent premenstrual headache; but premenstrual symptoms
last only four days, instead of seven, ten, or fifteen. Throughout month patient felt much better. Head clearer. No nervous trembling on Dec 14th. Hardly any sensitiveness on touching fundus. Carabolic acid, chloral, and glycerin after dilatation—*this the second time in same month*.

In six hours violent uterine colic, followed by persistent soreness of hypogastrium and increase of a (now purulent) discharge.

But menstruation in January without premonitory symptoms, while patient felt quite well.

Jan. 21st. Dilute nitric acid application not quite to fundus. Pain in buttock quite disappeared. Discharge increased. Menstruated on Feb. 4th, with severe headache and former hysterical symptoms, but no local pain [and had never had any].

Feb. 18th. Dilute nitric acid to cervical canal alone.

March 11th. Menstruation without headache or other nervous crisis.

March 14th. Iodized phenol internally after dilatation.

In two hours, violent pain and bleeding.

March 21st. Carabolic acid and glycerin just within internal os. Again cramps and bleeding in two hours. Very violent local pains for first two days of menstruation, but head free from distress. Local treatment omitted.

*Result.*—Menstruation on May 13th with little pain and no premenstrual symptoms, but sensation of a "deep bursting" in left ovarian region. Shortly after this, patient went into the country, health improved, and by September she was entirely free from the menstrual neuroses.

During the treatment of this case, galvanic applications were made over the various localities of pelvic pains or of headache, always with the effect of dissipating the pains for many hours, and making the patient feel much refreshed.

From a review of this case it seems probable that the intraperitoneal application of nitric acid in January was both superfluous and injurious; superfluous because, after the violent reaction and purulent discharge of the preceding month, it might have been inferred that the endometrium had sloughed, and there was no object in repeating the cauterization until there was evidence of new menstrual subinvolution; injurious because an application made upon the thinned endometrium, in a patient showing so many signs of congestion of the ovarian bulb, could hardly fail to increase this congestion. Thus is to be explained the severe menstrual headache which accompanied the next menstruation. From this time it seemed impossible to make any application within the internal os without causing severe pain—thus on March 14th and March 21st. The indication to sus-
In intra-uterine treatment was then unmistakable; but more careful reasoning would have perceived this indication already in January.

The acute ovarian irritation excited on these several occasions seems to have had finally the effect of dissipating the chronic ovarian congestion. The highly excitable nervous system of the patient may have exaggerated the real extent of the ovarian irritation; nevertheless, it could hardly be looked upon as a safe incident, but as one to be avoided, if possible. As long as no exudation took place from the distended blood-vessels, however, no permanent harm was done.

**Case IX.**—Æt. 22. Retroflexion, passive metritis, menorrhagia without dysmenorrhea, but constant pelvic pains, intense vulvar hyperesthesia. Patient had been out of health and under some form of local treatment for two years. Replacement uterus with pessary in October, 1886. No noticeable effect on symptoms. Nov. 6th. intra-uterine iodized phenol.

**Result.**—Immediate bleeding; next day patient felt much better; hyperesthesia of vulva and visible congestion.

Dec. 18th. Second application.

Jan. 12th. Third application.

Menstruation recurred Jan. 29th, more profuse even than usual, and only seventeen days after last period.

Feb. 7th. Fourth application; menstruation seemed quite healthy.

In March, patient much better; free from pelvic pains; endometrium still very sensitive.

March 17th. Carbolic acid and glycerin applied by a probe without previous stretching. Patient felt very well during the month, but succeeding menstruation very profuse.

April 11th. Omit intra-uterine applications; apply iodine to vault of vagina on 11th, 13th, 15th, 19th, and 21st; on same days hypodermic injections of ergotin, two grains.

Menstruation in May much less profuse and delayed three days. Uterus appears healthy; os contracted without abrasion; no leucorrhrea; ergotin injections continued throughout May, and during menstruation in June patient took hydrastis.

June menstruation quite normal. Patient remained quite well for six or eight months; occasional return of the symptoms was easily held in check.

In the foregoing case, control of the relaxed pelvic blood-vessels by means of ergotin and hydrastis was an essential part of the treatment. But its beneficial influence was preceded by the destruction of the diseased endometrium, which otherwise would have continued to act as a focus of irritation, determin-
ing an active afflux of blood to the pelvis, and thus counteracting all efforts to contract its blood-vessels. Rectification of the displacement was equally essential; and the inefficient treatment to which the girl had been subjected for two years had only vaguely attempted to effect this. But it is interesting to note in this, as in the entire class of cases of which this is the type, that even when an appropriate pessary had entirely corrected the flexion, the symptoms of the patient were not at all relieved so long as the menstrual metritis persisted.

Such cases, occurring by hundreds, and even thousands, sufficiently contradict the pretensions of the purely mechanical school of uterine therapeutics.

Case X.—Unmarried, at. 35. Uterus retroverted and so firmly impacted as to seem for a long time to be quite immovable. Patient had been three months in the Woman's Hospital for "cellulitis," but for a year after that, the year preceding present treatment, had been confined to room and almost to bed. Cervix swollen and abraded.

By means of large and forcible boroglycerated tampons, uterus was gradually lifted up from its impacted position, and in two months patient was able to wear a pessary with comfort. Coincidently with the tampon treatment, a single post-menstrual intra-uterine application was made of carbolic acid and glycerin for two months in succession, beginning one month from beginning of treatment.

Result.—After three months patient was able to walk about, and continued to do so with greatly improved health all summer. Resumption of treatment in October.

Post menstrual treatment ut supra. No pain; second application a week later.

Pain in hypogastrium for two days, but a few days later the abrasion on cervix found much improved.

Third post menstrual application in December.

Much pain for twenty-four hours, then marked improvement. Two or three more intra-uterine applications were made during the next six months; and in the spring the patient was substantially well, though still suffering occasionally from attacks of indigestion and neuroses, that, however, gradually yielded to appropriate treatment.

The great interest in the foregoing case lies in the fact that intra-uterine applications were made with impunity in a patient presenting a history of long-standing "cellulitis," which at the Woman's Hospital had for three months received no other treatment than hot injections, after which treatment the patient had remained for a year confined to her room or bed. Not
only were the intra-uterine applications tolerated, but in combination with the tampons they seemed essential to the cure, the pains on walking diminishing very markedly after they were made, as also the prostration habitual to the menstrual period. The patient never suffered from dysmenorrhea proper. To obtain the result from the treatment, it was necessary to use all precautions. The applications were not made until after a month of tamponing combined with daily hot sitz baths. The application was made with the patient in bed, and only once a month immediately after the menstrual period. Repetition of the treatment at the end of a week was followed by rather severe pains for two days.

Case XI.—Unmarried, æt. 28. Cervical catarrh of moderate intensity. Much luecorrhoea; canal dilated, red. Six months' duration apparently. No dysmenorrhea nor pelvic pains. Through July, applications of iodized phenol to cervical canal, i.e., one each week. Through October three similar applications.

Result.—Imperfect benefit; at the end of October, a single postmenstrual application of iodized phenol to the cavity, preceded by steel dilators, was followed by complete cure.

The intra uterine application determined a menstrual involution, which was the immediate agent in curing the cervical catarrh.

Case XII.—Unmarried, æt. 27. Severe dysmenorrhea and hysteria for two years. Uterus retroflexed, cervix normal, excessive hyperesthesia. probably general pelvic hyperemia. Treatment of the flexion by means of tampons was begun December 16th, 1885. Pessary inserted December 26th.

Result.—Considerable relief to dysmenorrhea, nevertheless required two opium suppositories to control pain. Had not been in the habit of using opium.

February 22d. Bleeding on passing probe to fundus. Although it was recognized that in this case the principal lesion was perinterine, it was decided to touch the fundal endometrium with iodized phenol. This was done at office, and patient remained for several hours before going home to Brooklyn. No pain at time, but severe pain seven or eight hours later; one week later, attack of cramps lasting five to six hours.

March 18th. Second application after use of steel dilators. This time patient went home at once to bed. No subsequent pain, and succeeding menstruation painless. requiring no suppositories. Treatment not repeated, but patient continued to improve; the hysterical symptoms quite subsided, and in July the patient remarked that she "felt more like a human being than she had
done in many months." There were some subsequent oscillations in condition and in treatment, but after another year the patient was well.

The oscillations are not recorded, because the points at issue here, namely, the possibility, benefit, and necessity of the intra-uterine applications in cases like this, are sufficiently demonstrated in the course of the first six months. On one occasion an intra-uterine application was made on the same day that the curve of the pessary was changed. The patient also went to office work instead of going home to bed as directed. She was then attacked with severe cramp-like pains, which lasted more or less during five days, and were accompanied by a sanguinolent discharge from the uterus. It seems, in cases like this, which are extremely common, that the changed position of the tubes, effected by pushing the fundus uteri further forward, permits the escape of some secretion from them into the cul-de-sac of Douglas, which irritates the peritoneum with more or less intensity. After the attack there was tenderness on pressure behind the uterus, and the patient suffered from backache. Both conditions disappeared under perinterine applications of iodine.


Result.—Marked relief of symptoms in a month, but these not complete, and objective appearance of uterus, except for flexion, remains the same.

September 16th. First intra-uterine application, iodized phenol, steel dilators.

October, second application. November, third application. No pain at any time, and always marked improvement. Great diminution of leucorrhea, but cervix remains swollen and abraded on December 10th, when fourth application. January, 1887, fifth and last intra-uterine application. Entire cessation of all symptoms, patient feels perfectly well, scarcely any leucorrhea, yet abrasion at os remained. This was finally cured by local applications of iodoform.

Case XIV.—Married, æt. 47. Child five years. Subinvolution after confinement, from which symptoms date. Uterine cavity four inches, cervix evidently lacerated, causing ulceration; menstruation profuse. Severe headache, constant dragging pain in left hypogastrium.
March 20th, 1886. Application iodized phenol at home after two scarifications of cervix at office.

Result.—Not much pain at time, but next day "felt sick all over." Succeeding menstruation, however, lasted only four days instead of seven, and cervix found much paler and less swollen subsequently.

April 14th. Scarification of cervix.


May 13th. Scarification causing much less bleeding. Intrauterine application (iodized phenol) at office. After going home, three hours after the treatment, patient had violent pains followed by a yellowish discharge, which lasted for six days and was attended with some fever. After this, patient felt very much better, and in June the hypogastric pain had entirely disappeared; the uterus was painless, with a cavity of three and a half inches, cervix still voluminous but quite pale, and free from ulceration. The menstruation was delayed for forty-one days, then occurred normally. Treatment interrupted. Restoration to health persisted in September, so that proposed operation for lacerated cervix was declined.

The attack of pain and purulent discharge following the third local application seemed to depend on the elimination or sloughing of deeper layers of the endometrium than had hitherto been reached. There was in fact an acute endometritis. This sloughing effected the cure, but it was attended with rather violent symptoms. In many cases is to be noted the greater liability to such severe reaction in the third month or with the third application.

The liability to such symptoms does not contra-indicate a succession of three applications, when these are separated from each other by a month’s interval and a menstrual period, and when there is no peritoneal lesion. But if the latter exist, it is important not to make applications on three months in succession, but, after two successive post-menstrual treatments, to allow two menstrual periods to elapse before making a third.

Case XV.—Unmarried, æt. 34. Retroflexion induced by return of menstruation in a chloro-anemic subject after eight years’ complete amenorrhea. Moderate hysteriform symptoms. Menorrhagia (which was probably the immediate cause of the flexion, then aggravated by it). No catarrh. Rectification of displacement by pessary.

Result.—Diminution menorrhagia. Persistent pelvic dragging; also of mental depression. Intra-uterine applications nitric
acid diluted with equal parts water, alternated with iodized phenol. Each, once a month.

Immediate and noticeable improvement to both pelvic and cerebral paresthesias after each local treatment. After six months, patient felt entirely well.

The foregoing case is curious, as illustrating an effect of intra-uterine applications not usually mentioned, namely, a stimulating effect upon the utero-ovarian nerve, distinctly beneficial even in the absence of the usual symptoms of endometritis.

CASE XVI.—Unmarried, æt. 32. Delicate woman; always severe congestive dysmenorrhea. Since four months, after severe grief, suffers from diffuse pains, nausea, and entire inability to walk. Uterus anteflexed, with an acutely sensitive and bleeding endometrium. Cervix swollen. Leucorrhea.

Oct. 30th, 1884. After dilatation with steel dilators, applied solution chromic acid, 20%, to endometrium.

Result.—Much pain and bleeding. But on following day patient begins to sit up. Treatment continued with warm sitz baths at night and cold spinal douche in morning.

Nov. 6th. Swelling of cervix and leucorrhea both much diminished. Scarification of cervix once a week till next menstruation.

Menstruated without pain for first time in her life.

Nov. 26th. Second intra-uterine application.
On Dec. 3d, patient feels a great deal better. Can walk five blocks. Uterine canal scarcely dilated; mucosa still red.


Dec. 3d. Third intra-uterine application, this time of iodized phenol.

Jan. (1885). Menstruation without pain. After it, made a fourth intra-uterine application, this time of chromic acid again.

Feels very well. Better than in ten years. Continued well without further treatment until April. Then a painful menstruation.

May, 1885. Fifth intra-uterine application (chromic acid). Menstruation at end of May a little premature, but without any pain. Treatment suspended.

In October, uterus was found healthy in every respect; anteflexion had disappeared, patient was feeling perfectly well.

The foregoing case illustrates very well the truly paralytic character of homologous uterine disease, which can so readily develop in consequence of severe menstrual depression. Menstrual metritis, the result of menstrual subinvolution, is distinctly a paresis of the nervo-muscular tissue of the utero-ovarian system. In many respects it closely resembles the
paresis of the bladder, causing retention of urine, which is so liable to develop under the influence of the same etiological factors.

Case XVII.—Æt. 25. Severe dysmenorrhea for ten years; uterus retroverted, scarcely flexed; cervix soft and healthy; no intermenstrual pain. Pessary adjusted May 21st, 1884. No other treatment.

Result.—Progressive diminution of dysmenorrhea till November. Uterus perfectly in place with pessary; cervix moderately swollen; os dilated, surrounded by broad red rim. Passage of sound to fundus causes moderate pain and bleeding.

Nov. 15th. Thirteen days before menstruation intra-uterine application iodized phenol, then same to cervical canal Nov. 12th. Menstruation almost painless, and afterwards cervix found much less swollen.

Nov. 28th. Second intra-uterine application.
Menstruation quite painless; cervix almost healthy; treatment suspended.

Case XVIII.—Æt. 32. Retroflexion of uterus; moderate cervical catarrh; intense cerebro-spinal neurasthenia with multiple symptoms for three years, beginning in malarial attacks; lithemic constitution.

Sept., 1883. Rectified displacement.
On Oct. 3d, 17th, 31st, Nov. 7th, applications chromic acid or iodized phenol to cervical canal. Patient received massage, had blisters over spine, took iron and soda powders.

On March 27th, 1884, actual cautery to spine.

Result (of spinal cauterization).—Great relief to spinal paresthesia, but still the neurasthenic symptoms, distressing inability for mental exertion, etc., persist little changed.

May 10th. First intra-uterine application chromic acid, twenty per cent.
Increased leucorrhoea, but patient felt much better, especially in regard to cerebral symptoms; improvement continues throughout month.

June 4th. Second intra-uterine application.
Patient feels very much better; "more alive"; scarcely any pain in back.
Treatment interrupted; continued to feel better all summer; little pain in back; no pelvic dragging, no violent headaches; can read much more, can walk a mile; uterus in place; only a red rim around os.

Jan. 2d, 1885. Intra-uterine application.
Feb. 11th. Chromic acid intra-uterine. Treatment interrupted, but patient continued to use health lift at home.

May 12th, 1884. Almost complete disappearance of neurasthenic symptoms; endometrial catarrh quite subsided.
The above case illustrates the remarkable inhibitory action upon cerebral functions which may be exerted by a very moderate degree of fundal endometritis, and only cured after cauterization of the endometrium. In this case, the most varied treatment had been tried without success; the effect of the intra-uterine applications was marked from the very first.

**Case XIX.**—Married; sterile; chronic metritis with retroversion and prolapus; severe dysmenorrhea; constant intermenstrual pain. Rectification of version in April, 1882. Pessary worn until October

**Result.**—Relief to intermenstrual pains, diminution dysmenorrhea and leucorrhea.

Oct. 2d. Intra-uterine application nitric acid, diluted with equal parts water.

Considerable pain throughout afternoon. A week after application, elimination eschar, attended by bleeding; menstruation a week later (thus a week in advance of time); much less pain than previously.

Oct 25th. Much less sensitiveness to passage of probe; repeat nitric 1 + 1.

On Nov. 20th, find cervix much less swollen; repeat intra-uterine application.

Reports (in January) great improvement; no pelvic pain at all until menstruation in December, then these very moderate; cervix only a little red.

Jan. 12th. Repeat intra-uterine treatment once, then ceased. Improvement maintained. Patient feels herself well.

**Case XX.**—Married; three children, youngest six years old. Chronic uterine catarrh, with moderate parenchymatous lesion; no displacement; excessive hyperesthesia of vagina; profound prostration and obtuse pains at menstrual period; constant intermenstrual backache; patient much anemic and debilitated. Treatment complex, including cold pack and massage, with cod-liver oil, iron, and lime for the anemia, and warm sitz baths for the metritis; intra-uterine medication, preceded by a month of tampons with boroglycerated wool, under whose use the hyperesthesia completely subsided; first intra-uterine application of iodized phenol made with Braun's syringe at the patient's house in December.

**Result.**—Little pain at time, but dull pains developed in an hour, and lasted for two or three days; patient did not completely recover for a week; after that felt remarkably well and passed quite a normal menstrual period; second application made; less subsequent pain, so that application was repeated in a week. A fourth application was made on the third month, and by this time the patient was feeling very well, though the cervix was still large and somewhat abraded.

(To be concluded.)
SHALL THE PHYSICIAN RESIGN HIS OBSTETRIC PRACTICE WHILE TREATING SMALL-POX?

BY

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The question whether or not the physician endangers the life of an obstetric patient whom he may be called upon to attend, while at the same time he has under treatment so virulent a disease as confluent small-pox, is one that has often presented itself to me. While I may have certain convictions upon this topic, yet, at the present time, I am unable to say whether this question should be answered in the affirmative or not. Authorities, so far as I have been able to consult them, give us but very little aid in the solution of this question. The "American System of Obstetrics" makes no mention of this particular phase of the subject. It merely states that the pregnant woman should be kept as far as possible from the circle of infection of small pox, because variola, when it attacks a pregnant woman, is almost certain death to both mother and fetus. In the "Cyclopedia of Obstetrics," about the same views are advanced. The same is also true as regards the various other authorities that have been consulted upon this question. I have also been unable to find anything in the journals that throw any light upon the topic under consideration. Nowhere is any advice given the physician when the circumstances, as outlined in the question forming the title to this paper, present themselves for his consideration. The query that comes up at this point is this: Are antiseptics of any real value? If so, will they help us in this particular field? I believe they will. I believe that when the physician is thorough in both aseptics and antiseptics, he then can introduce his hands into the abdominal, vaginal, or even uterine cavities without any particular danger to the life of his patient, no matter what other circumstances may be present. I desire to report the following three cases in corroboration of the views above set forth:

Mrs. P——, primipara, æt. 22. Attended her in labor De-
December 12th, 1888. Labor tedious; delivery with forceps. Mother and child made good recovery. Three hours previous to attending this patient I saw and came in contact with a patient in the vesicular stage of confluent small-pox.

Mrs. II——, multipara, aged 25. Attended patient in confinement December 19th, 1888. Was with patient two hours. Mother and child made good recovery. My small-pox patient was at this time in the beginning of pustular stage.


The most thorough aseptic and antiseptic precautions were observed upon all the exposed parts, together with an entire change of my clothing; then a soap-and-water bath followed, with a bichloride solution 1-1000. This followed with a boric acid solution 1-50. This method followed just previous to attending each of the above-reported cases. After attending the last patient, I became the subject of very harsh criticism from certain local members of the profession, and the subject became material for serious thought on my part. Having consulted all authorities upon the subject at my command, I then placed myself in correspondence with Dr. J. Henry Carstens, Professor of Obstetrics, Detroit College of Medicine, a gentleman whose opinion upon such questions I regard very highly. The following is Dr. Carstens' reply:

Dear Doctor:—In answer to your question I will answer, Yes or no. It depends on your appreciation of antiseptic precautions; if you are thorough there is no danger. I would not hesitate to attend such cases, but I would use the utmost care in perfect antiseptics.

J. H. Carstens.

I also communicated with Dr. Edward W. Jenks, of Detroit. He was rather inclined to a conservative view of the subject. His opinion seemed to be that a physician should not attend an obstetrical patient while at the same time treating small-pox. Dr. Jenks is certainly entitled to speak with authority upon any question pertaining to the science and art of obstetrics. The question seems to me one of great practical importance, and I very much desire to see it discussed by men who have large experience in this line. Will not some of our able and learned accoucheurs give us their views upon this question in the columns of the American Journal of Obstetrics?
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, January 15th, 1889.

The President, Dr. H. T. Hanks, in the Chair.

EARLY HYSTERECTOMY IN CARCINOMA.

Dr. G. M. Tuttle.—I have several specimens to present to the Society which were obtained from cases in my service at the Roosevelt Hospital. The first is of some interest, from the fact that the disease, carcinoma of the uterus, is usually somewhat advanced before the patient comes under observation. This woman came to the hospital with an indefinite history of pain in the back and of not feeling well. The only suspicious circumstance was a small nodule on the anterior lip of the cervix uteri. She had no discharge or hemorrhage, no local pain, the nodule felt very hard, and without a microscopical examination it was impossible to differentiate it from an ordinary hypertrophic cervix containing connective tissue. A piece was removed, and Dr. Prudden unhesitatingly pronounced it carcinoma. It seemed to be an especially favorable case, and I removed the uterus by the vagina. The case illustrates the advantage of making a small section into the nodules on the cervix, so frequently seen in dispensary practice. During the operation I tried the method of Leopold, not to retrovert the uterus, but found before completing it that it was necessary to turn the uterus posteriorly. After the operation the case ran a favorable course.

LAPARATOMY FOR EXTRA-UTERINE PREGNANCY.

I have also here a specimen removed from a case of extra-uterine pregnancy. The woman had skipped two menstrual periods. With the third she had violent hemorrhage, and was brought to the hospital after the more urgent symptoms had subsided. Two weeks after the probable time of rupture I operated, and found the tube ruptured, and in a large clot was a portion of placenta. The fetus could not be found.

Two or three weeks ago I operated upon another case, but I have not the specimen here. One tube was filled with grumous blood. In its centre was a small nodule, about as large as my thumb, attached to one side of the tube, which I imagined resulted from an extra-uterine pregnancy. The pathologist's examination has not been completed.
Transactions of the

SPECMENS OF SALPINGITIS.

Here are a number of specimens which have become so common that it is unnecessary to give a detailed history of the individual cases. They are mostly samples of salpingitis, some with abscess of the ovary, and all of recent occurrence in my practice in the hospital. This specimen of hydro-salpinx I brought because it was taken out unruptured. It was entirely surrounded by intestines, and it was easier to strip the adhesions off the tumor, and bring it out intact through the small abdominal wound, than to pursue the ordinary course and tap it.

In one case of pyo-salpinx I was unable to remove the tube on one side after opening the abdomen. Yet I had in mind during the operation a remark of Dr. Wylie that the appendages should never be left, and it was my impression then that they could always be removed. After withdrawal of the pus by a large aspirator, the tumor on one side was found so enveloped in adhesions to the colon and meso-colon that it was absolutely impossible to remove it. Having recently operated in something over twenty cases, I do not think I was deterred by want of courage, but rather by the conviction that it was impossible to remove the appendages upon the one side.

Many of these cases had made the rounds and been treated for various troubles by electricity, etc. All of them, however, presented distinct evidence of disease of the appendages.

It is my impression that in many cases in which specimens are pronounced on superficial examination to be hemato-salpinx, a microscopical examination would reveal chorionic villi. In three cases I have found evidence of chorionic villi but no fetus; in others I have searched for proof of extra-uterine pregnancy in vain.

The President.—In one case, I understand, Dr. Tuttle operated two months after conception, and found evidence of extra-uterine pregnancy but no fetus. One would infer that the use of electricity for killing the ovum at that stage of extra-uterine pregnancy would give rise to no danger from a foreign body in the pelvis.

Dr. Grandin.—I understand the President’s remark to imply that the placenta had not yet formed as such; that there were only chorionic villi, and consequently that Mr. Tait’s objection to the use of electricity on the ground that the placenta will continue to grow is not valid before the third month. Where, in normal pregnancy, the ovum dies before the period of placental development, the villi do not, nevertheless, continue to grow to the formation of the placenta. Is it at all likely that the reverse holds true in tubal gestation after the destruction of the product of conception?

The President added that it was important to know, in considering the question of the use of electricity, whether the membranes continued to grow after the death of the ovum, and whether rupture took place before the ovum died.

Dr. W. Gill Wylie.—I think Dr. Tuttle’s view is correct, that
many cases operated upon for disease of the tubes and ovaries begin as extra-uterine pregnancy. I have met with not fewer than three such cases, in all of which the fetus was found. A difficulty in deciding on the use of electricity refers to the uncertainty of diagnosis. I think it is exceedingly rare that the physician can possibly diagnosticate early extra-uterine pregnancy, unless there be symptoms of rupture. I know of two or three cases in which the diagnosis of extra-uterine pregnancy was made and electricity was used, yet a subsequent operation proved that there had not been extra-uterine pregnancy at all. If we find a tumor which is giving much trouble or is growing rapidly, I think, in order to clear up all uncertainty, it is better to do laparotomy, for the operation has come to be a very safe one.

I do not think there is any evidence that when the fetus is dead the placenta will continue to grow. But if a mass is left which is likely to undergo changes, give rise to local peritonitis, or render the tube useless, I think it is better to remove it.

Dr. Janvrin remarked that, inasmuch as laparotomy was performed in Dr. Tuttle's case two weeks after rupture of the sac, sufficient time had elapsed for the disappearance of the fetus which he was unable to find. Had the operation been done within twenty-four hours after rupture, as he at first understood was done in this case, and the fetus been two or three months old, it certainly should have been very carefully sought for in the abdominal cavity, and it was altogether likely it could be found and removed.

Dr. Buckmaster.—I cannot comprehend the force of the arguments which have been used against the employment of electricity. If the diagnosis be uncertain, it seems to me the use of electricity is very much less dangerous than laparotomy. That electricity is absolutely certain to destroy the fetus I have no doubt, especially if it is in careful and skilful hands. I do not understand how the argument for laparotomy can hold at all, except where the cyst has ruptured and there are symptoms of septic absorption.

Dr. Grandin.—I think Dr. Buckmaster's position is a good one, particularly in view of the fact that in this country, in our endeavors to emulate certain operators in Europe, we are in danger of opening the abdomen too frequently. I myself have heard recently of two cases where the diagnosis of extra-uterine pregnancy was made, with all positiveness, by acknowledged experts after repeated examination, the abdomen was opened, and uterine pregnancy was found. If the symptoms are not such as to enable even experts to make a correct diagnosis, I do not think we are justified in opening the abdomen. But resort to electricity can do no harm, and will kill the fetus if it is outside the uterus.

Dr. Wylie.—While waiting to use electricity, rupture may sometimes take place, and recovery, if laparotomy be resorted to, is much less likely than if it had been resorted to before rupture. Mistakes cannot always be avoided.

Dr. Buckmaster.—I had in mind more particularly the use of the galvanic current, and a current of sufficient power to preclude the possibility of not destroying the fetus. If one hundred milli-ampères will not answer the purpose, a greater current strength should be employed. Faradism might not prove effective.

The President.—The discussion has wandered somewhat from the case which gave rise to it, one in which rupture of a tubal
pregnancy had taken place, necessitating laparotomy. It has, however, been interesting and instructive.

**UTERINE FIBROIDS: PYO-SALPINX.**

Dr. Wylie.—I have here a specimen from a case which is in line with the discussion that has just taken place. It illustrates the fact that the abdomen sometimes is not opened when it ought to be. If the abdomen is not opened and the woman dies, nobody is to blame, at least from the position taken by some. But I think such negative mistakes are made much more frequently than are the positive ones where the abdomen is opened too often.

Ten or twelve years ago, the school teacher from whom this specimen was removed had symptoms of local uterine trouble. She was told after an examination that the womb was displaced, but treatment caused no improvement. She stopped all treatment, went about her work without marked symptoms, until a few weeks after marriage, in October last, when such severe pain of a spasmodic nature developed in the pelvis that she again sought the advice of a physician. After he had seen her once or twice, and used a good deal of morphine to relieve pain, he made an examination, and found the uterus crowded down in the pelvis, either by a tumor or enlarged and bent upon itself. He advised her to go to a hospital, and she was taken to the Woman’s Hospital. She was there examined by several surgeons, who pronounced it a case of uterine fibroids, and recommended, so far as I can learn, the use of electricity. This was employed once. The patient had had before entering the hospital one rather severe hemorrhage, and afterward a severe one which lasted two weeks. Her husband then brought her to my private hospital. She suffered from such violent pain that I at once made up my mind after an examination that this was due to something besides the fibroids which could be felt. My reason for so thinking was based on experience with similar cases, in which I had found that the pain, when severe, was due to some complication rather than to the fibroid. I have so frequently found salpingitis or local peritonitis accompanying the fibroid and the cause of the great pain present, that I was inclined to believe they existed in this case. This patient found it necessary to take freely of morphine to relieve the pain, and was in danger of soon contracting the morphine habit. It would require several months for electricity to do any good, and in addition to that fact it might cause trouble on account of a complication.

Last Saturday I opened the abdomen, and about the first thing felt was a largely distended tube, an inch or more in diameter, containing pus. The tube and ovary on the right side were involved in rather extensive adhesions; the left tube was also distended with pus. The pelvis was completely filled with fibroids, three in number.

It seemed one could hardly have found a case more unsuitable
for the use of electricity, and the chances are that if it had been employed the patient would have died of peritonitis. I show the specimen especially to impress the fact that when a great deal of pelvic pain exists along with a fibroid it must be concluded, as a rule, that the pain is not due to the fibroid, but to some complication. The case is also evidence of the fact that the abdomen sometimes is not opened when it ought to be.

The fibroids were left, as their removal would have involved a very formidable operation, and I believed the patient's sufferings would disappear after removal of the tubes and ovaries.

**The President.**—Without having regard to this particular case of Dr. Wylie's, I would ask whether the amount of pain produced by the fibroid does not depend much upon its situation; whether it is so located as to cause stretching of the broad ligaments and peritoneum?

**Dr. Wylie.**—The location does not make a great deal of difference if the peritoneum is healthy. I believe that fibroids, as a rule, unless in contact with diseased tissues, cause little pain. We find fibroids of large size, high up and low down, in women who had experienced so little trouble from them that they were not aware of their existence until accidentally discovered. But if there be a diseased uterus, or tubes and ovaries, there will be pain.

**The President.**—I have never seen a fibroid growing out laterally under a broad ligament without being accompanied by much pain, which I had supposed, and still believe to be, greatly exaggerated on account of the locality of the tumor.

**Écraseur for use in Hysterectomy.**

**Dr. Wylie.**—The instrument which I present this evening was shown at the recent Congress in Washington, but, since an account of it will not appear in the transactions of the Congress, it will not be out of place to exhibit it on this occasion. I have made use of it about a year, and found it very practical. It is an écraseur made especially to secure the muscular stamp in hysterectomy. It has two curves. With it there is a pin for transfixing the pedicle and holding it up, not allowing the pin to sink into the abdomen and injure the tissues, especially in women who are at all fat. The method is better than sticking the end of the pin into a cork or hard rubber, which take up so much room and are, rather difficult to keep in place. There is a little slot, and the head of the pin is somewhat spear-shaped, which causes it to catch at different points.

The instrument is easy to clean, and has been found to work well.

I have used the wire a number of years, but include in its grasp only muscular tissue; the soft tissues and broad ligament I attack separately. Thus I have three stumps, the central one clasped by the wire, the side ones by the silk, and these joined to the wire, the object being to accomplish what I consider a very important point—namely, to completely close the broad ligaments,
so that if a slough forms above there will be no percolation of pus into the connective tissue of the broad ligament, formation of abscess and bursting thereof. This, I am satisfied, has been the cause of death in many cases. If it is avoided in the manner I have described, I think hysterectomy becomes not much more dangerous than ovariotomy.

The President.—The Society would be glad to hear the latter part of Dr. Wylie's process described a little more in detail.

Dr. Wylie.—I first tie the broad ligaments with silk, then put on the wire, hugging closely the muscular tissue of the uterus. Before tightening the wire I take two extra pieces of silk, pass them through the broad ligament and through the loop of the wire, one on either side; then tighten the wire and also the silk. Thus we have three stumps brought together in a way to prevent the entrance of pus into the tissues of the broad ligament, as might take place, and as I am convinced has often taken place and caused death, in the ordinary way of ligating the stump.

MYOMA OF THE UTERUS.

Dr. Charles C. Lee.—I have a specimen which it seems particularly appropriate to present after the description given by Dr. Wylie of his method of operating in hysterectomy, for the case illustrates a different method which I think, if properly carried out, is quite as satisfactory as any can possibly be. The specimen is a large myoma which I removed on Friday afternoon under the following circumstances:

A former pupil sent a woman to me from Colorado two weeks ago who had had two attacks of peritonitis. She had had abdominal dropsy recurring at intervals for five years; there was some albuminuria, but no casts were found in the urine. There was an excessive amount of pain in the abdomen, more than the persistence of slight chronic peritonitis, and a tumor which obviously was present in her abdomen, would account for. On examination I felt a movable tumor which I was at once sure was either a myoma or possibly a sarcoma involving the whole body of the uterus. There were also cystic enlargement of the right ovary and double salpingitis.

Although, on account of the extreme tension on the uterus below, I was doubtful whether I could remove the whole mass successfully, I decided to attempt the operation, and carried it out on Friday afternoon, removing this mass, together with the ovaries and tubes. It proved to be, as I had supposed, a myoma involving the whole uterus, and weighed thirteen pounds. There was ovarian and tubal disease on both sides. The operation was accomplished with no more difficulty than is usual in such cases.

I employed the clamp, a modification of Keith's; for in practice, covering eleven hysterectomies of my own, besides many others seen in the practice of different surgeons, I have observed better results from the clamp than from any form of écraseur. I have used Dr. Bantock's modification of Koeberle's écraseur in four
cases. I have never applied the ligature to the broad ligament separately, but have always tried to secure such perfect drainage as to feel confident of the cause of death when it occurred. Of the eleven cases of supra-pubic hysterectomy, I have lost only one, besides one in which Mr. Bantock carried out the operation for me, using his modification of Koeberle’s wire serre-neud. In the latter the patient died on the eighth or ninth day of septicemia. It seems to me now that no matter how dexterously the wire serre-neud may be applied to the stump, and no matter how carefully it may be adjusted, it will damage the under surface of the stump because of too rapid cutting. This, however, may be less likely to take place if the ligaments are tied separately, as Dr. Wylie has suggested. When not so tied, I think the greater mortality from supra-pubic hysterectomy has been due to rapid cutting of the wire, causing, not hemorrhage, but destruction of vitality in the tissues below before drying of the stump, which is about to separate above, takes place. Mr. Keith’s custom is to mummify the stump by applying a solution of persulphate of iron in glycerin. I think the same result can better be obtained by charring the stump with the red-hot iron. I have always used the Paquelin cautery for that purpose, applying it thoroughly all round the stump. In every case in which I have used the wire, four in all, there has been septic trouble; one terminated fatally, and the other three had a lingering recovery. In every case in which I employed the clamp (always having a drainage tube above and separate from it) there has been an excellent result. The case operated upon on Friday last has up to the present had a temperature not above 99°, and a pulse not over 76. The woman had chronic peritonitis, which rendered the case rather more favorable for operation.

The clamp is laughed at by some and ridiculed by others, yet I would like to know of those capable of judging, whether, when properly used and the stump is kept dry and mummified, the results from the use of the clamp have not been as good as from any other method employed. In the statistics of all recorded cases of hysterectomy up to the close of 1886, collected by M. Vantrin, of Paris, it appears, in the cases in which the method of operating was given, that better results were obtained from the clamp than from any form of serre-neud used. I am aware that Mr. Tait, Mr. Bantock, and others use the serre-neud. I am ready to return to its use as soon as its superiority can be proven.¹

DR. WILLIAM M. POLK.—My experience with supra-pubic hysterectomy has been limited to ten cases. I have employed the ligature and the Koeberle wire, and found both successful. One patient died from shock, death being due not in the least to the hemo-

¹ March 23d, 1889.—This patient entirely recovered, with an uneventful convalescence. The temperature never went above 100° F., and only on one day up to that. The clamp came away on the thirteenth day.
static devices referred to. The Koeberle wire worked successfully, and I thought very well of it, but, at the risk of departing somewhat from the line of thought suggested by Dr. Lee's question, I would simply say it occurred to me that leaving a large suppurating, or rather gangrenous, stump was a surgical fault seriously threatening the life of the patient, and that improved means should be devised whereby it could be got rid of. For that reason I was very easily drawn to the intra-peritoneal method of treating the stump. Yet, after comparing Bantock's statements with those of Martin, I found that the extra-peritoneal method did give the best results. It then occurred to me that the stump might be treated extra-peritoneally and yet the prolonged sloughing process be avoided, and for this reason I devised a method which I employed in two cases reported to this Society a year ago. In this method the uterus is enucleated as low down as it is proposed to make the amputation. First, however, the broad ligaments are ligated in the manner suggested by Mr. Keith, and which I consider absolutely necessary in carrying out the procedure. The peritoneum is pared down after the method of Mr. Bantock; but instead of placing the serre-neud below the reflected peritoneum, I put it between the peritoneal covering and uterine tissue proper, and treat the stump somewhat on the principle one treats an enucleated par-ovarian cyst. The question of controlling hemorrhage was, of course, an important one, for it was necessary to ligate the uterine artery inside the sac created by stripping off the outer covering of the uterus, if possible. But that was readily done by carrying the ligature well down, so as to include the uterine artery below the point at which the peritoneum had been turned down. That left a sac the bottom of which was represented by the stump of the uterus. The peritoneal covering was then stitched in the manner one treats a par-ovarian cyst, and the resulting cavity drained with iodoform gauze. In that way I got rid of the tension, which usually is so trying an element, of the large mass of tissue which lies above the ligature, clamp, or serre-neud, and in the two cases narrated the hemorrhage amounted to nothing. I also got rid of another source of great irritation to the patient—namely, of the pins passed through the stump for the purpose of holding it up. The stump behaved very well, and in carrying out the operation I found no greater difficulty than when I had used the clamp, ligature, or serre-neud.

I should like to have the question under discussion broadened, so as to take in the views of the members upon the propriety of total extirpation of the uterus after ligation of the uterine artery. I know two gentlemen of this city who have done this operation. Where the body of the uterus is high up, I should think it would not be very difficult to extirpate the entire organ, ligating the uterine artery and treating the vaginal wound after the open method, or closing the peritoneum, if preferred, somewhat in the manner practised in vaginal hysterectomy. It might seem that this was encroaching on the operation devised by Freund and abandoned because of the great mortality. But Freund's operation was for extirpation of the small uterus low down in the pelvis, and consequently requiring a greater amount of manipulation than would be necessary in the average case of hysterectomy where the uterus is lifted up and the vessels elongated. In the two cases thus operated upon in this city the result, I believe, has been good.

As stated before, I believe it is time to look about for a means
of getting rid of the slowly sloughing stump, which is constantly a source of danger in addition to what pertains to ordinary laparatomies.

Dr. Lee having expressed doubt as to the ready application of the method, Dr. Polk added that, if one found the uterus not elevated sufficiently above the brim of the pelvis to render the operation comparatively easy, he would then be free to adopt some other procedure.

The President.—I would ask Dr. Polk if it would not be possible, in cases of supra-pubic hysterectomy for large fibroids of the uterus, to pass the forceps up through the vagina in the first part of the operation, and seize the vessels and control hemorrhage from that direction. Total extirpation being thus made, no stump would be left to slough.

Dr. Polk.—I should think it would be needlessly complicating the operation to work from below as well as from above, and I should imagine that more could be accomplished in the direction of controlling the vessels by working from above alone. In ordinary vaginal hysterectomy the uterus is dragged down and the operator works low down. In these cases of large fibroids the operator would have to work high up.

Dr. Janvrin.—The proposition suggested by the President was also brought forward by Dr. Dudley, of Chicago, at the recent meeting of the American Gynecological Association at Washington, but the cases in which he thought it would be applicable were those of hysterectomy for large carcinomatous uterus.

Dr. Tuttle remarked: It has impressed me that it would be relatively easy to raise the uterus up and pass the aneurysm needle around the uterine artery. I saw Dr. McBurney use a device which was ingenious, consisting in exposing the cervix, passing a ligature through its centre and tying it in halves, and slinging the stump from the abdominal wound by one of the silver sutures closing the latter. Should bleeding occur, one or two stitches can be taken out to secure it. I afterward learned that the procedure was not novel.

Dr. Polk.—Another easy way of treating the stump is to make an incision from the cervical canal into Douglas' pouch, turn the stump into the vagina, stitch the peritoneal surface over the stump, and have drainage take place into the vagina.

Dr. Wylie.—One of the first hysterectomies performed in New York was that in which I controlled hemorrhage from the vagina by passing a wire, something like an écraseur, up around the uterus. The hemorrhage was thus controlled perfectly, and I think the patient would have lived had not the elastic ligature cut the broad ligament as to allow of much loss of blood and added to shock, of which the woman died. I afterward adopted the écraseur method, tying the broad ligament separately, and had such good success that I did not care to experiment much with other procedures. That is the way I feel about it yet. Then there is danger, in the method suggested by Dr. Polk, of going too low, pulling up on the womb too much, and thus of injuring the ureter.

Dr. Polk.—That mistake might be made by those who do not know the anatomy of the parts.

Dr. Buckmaster added that the method suggested by Dr. Polk had been employed by a German with success.

Dr. A. P. Dudley.—I have made six supra-pubic hysterectomies: have treated three extra-peritoneally and lost all; three
intra-pelvic but extra-peritoneally, and saved all. It is true that those treated extra-peritoneally were grave cases. Dr. Wylie saw one in which the bladder was spread out and attached to the growth, which extended up to the navel. The stump was treated extra-peritoneally, and a drainage tube had to be placed behind it on account of the adhesions which had existed. The patient jumped up in a dream and thus started a peritonitis around the drainage tube, got up intestinal adhesions, and died from intestinal obstruction.

The third death was in a case treated after the manner described by Dr. Polk—that is, of cutting the stump as short as possible, charring it, stitching the peritoneum to the abdominal wound, having the stump extra-peritoneal and yet intra-abdominal. The case was complicated by an angiomatous growth between the rectum and uterus, and the tension upon it evidently caused hemorrhage. Dr. Heitzman, who examined the specimen, declared that traction had caused rupture of vessels in the angioma and secondary hemorrhage, of which the patient died.

In the cases treated by the intra-pelvic method, I have dissected all the uterus out to about three-quarters of an inch of the cervix, taking off the first layer of muscular tissue with the peritoneum. As I entered cervical tissue, I gradually sloped the dissection inward, making the stump quite small. I am quite positive of having ligated the uterine arteries in at least the last two of those cases. The wound was closed over, thereby excluding the ligature from the abdominal cavity, catgut sutures being employed. There was no rise of temperature until the third day in any of the cases. On that day, in each of the three I dilated the cervix leading to the wounded surface, and a discharge of pus took place into the vagina. A No. 8 rubber catheter was inserted, irrigation was made daily, and all the patients recovered. As far as I am able to judge, this is one of the best methods of doing supra-pubic hysterectomy. There is no tension. I do not think I run any risk at all of ligating the ureters when the cervix is approached from the circumference towards the centre. It is my belief that most cases of death from the intra-peritoneal method have arisen from sloughing of the stump, which was not recognized, and allowing a large ligature to remain inside the peritoneal cavity.

In reply to Dr. Tuttle, Dr. Dudley said that only catgut was used, both for sutures and ligature.

Dr. Cushing, of Boston (present by invitation).—There is a point with regard to the elastic ligature to which I may refer. I have had several cases of hysterectomy, and Dr. Irish, of Lowell, has often had the kindness to assist me. Dr. Irish early used the wire ligature, but gave it up for the elastic ligature. When I first saw the latter employed I was pleased with its action, and I have since used it in six or eight cases. Although some of the patients died, it was not from trouble with the stump. Dr. Irish uses the elastic ligature altogether.

In most cases of myoma the tube can be traced coming up near the surface of the tumor, and the insertions of the broad ligaments are not more than two or three inches apart, even in cases of tumors as large as a child's head. The rubber ligature need not be drawn too tight, and it is a mistake also to use one too small. Let it be a tube of red or black rubber, not too small, put around twice, not drawn particularly tight, and all hemorrhage will be checked. Carry the incision on either side above the
insertion of the tube, and the cavity of the broad ligament will practically not be opened and very little hemorrhage will take place. If the incision be too near the ligature, the tension to which the broad ligaments are subjected may be sufficient to draw them from under it.

Performing the operation in this way makes it less necessary to follow Dr. Wylie's suggestions and make three stumps. If desireable, the broad ligaments can be stitched down on the stump of the tumor by the shoemaker stitch. The ligature, instead of being below the pin, should preferably be above. The trouble with the wire, as far as I have observed, is that, if put on early in the operation, it is very difficult to remove it afterward, and it is hard to say whether it is not going to nip the bladder.

I believe the elastic ligature is not in favor here in New York, and for that reason I have gladly accepted your kind invitation to give my experience with it. I have used it in probably seven or eight cases, and Dr. Irish in as many more, and we have had no trouble from the stump, none from bleeding, no breakage of the ligature, and, being outside the pin and outside the abdominal wall, it allows nicer contact of the abdominal wound than by any other method I have seen.

Dr. Dudley remarked that Dr. Sims had often used the rubber ligature, and reported success.

Dr. H. J. Boldt then read a paper entitled

VESICO-VAGINAL FISTULA FROM UNUSUAL CAUSE, WITH SOME REMARKS ON VAGINAL HYSTERECTOMY FOR CANCER.

The most usual traumatic causes of vesico-vaginal fistulae are injuries sustained during tedious or instrumental labor. I think, therefore, it would be of interest to have a case related in which the factor producing the lesion is, as far as I know, entirely unique. The patient was referred to me to have vaginal hysterectomy done for cancer of the uterus. Two days after the performance of the operation, the woman developed cystitis, due to the employment of an unclean catheter by the nurse. The bladder was ordered to be irrigated at regular intervals with a solution of boric acid; the patient, however, complained of considerable pain when this was done, with a continuance of it for some time succeeding the washing.

The inflammation of the bladder did not improve from treatment, and about two weeks subsequent to its beginning it was found that no urine escaped on the introduction of the catheter, but that the napkins instead had a urinous odor. An examination was made, which disclosed a vesico-vaginal fistula, the cause of which, under the circumstances, it was impossible for me to understand. However, it was soon cleared up, when the person to whom the bladder washing had been intrusted was requested by me to do it in my presence, the patient having complained very bitterly about the pain it caused, especially the last few times. To my astonishment, a silver male catheter was used, and, as soon as the bladder was entered, turned around forcibly, so that the point
impinged against the posterior wall of the viscus. The moment this was done she was in agony. The continuance of the frequently-repeated traumatism had evidently been the cause of the fistula.

The bladder, under ordinary circumstances, would, owing to its distensibility, have readily yielded to the instrument without injury; but being already inflamed, and the traumatism being repeated every few hours, causing the inflammation from this source to increase, especially when employed with the amount of force which I witnessed, had been amply sufficient to bring about the described lesion. It may, however, be possible that the catheter had been actually forced through the structures, which had previously become very much weakened by the contact of the instrument employed at about the same locality.

Vaginal hysterectomies do not belong to the rarities, and the prognosis as regards recovery from the operation is usually favorable, if the case has been well chosen. I shall limit myself to the operation for malignant disease, the most frequent form of which is cancer. The first one was done by Lauter in 1822; since that time, especially during the past few years, it has been done very often, with more or less success. That vaginal extirpation is the proper operation in every case, provided there are no contra-indications present, is, I think, conceded by the majority of the profession, and it is indicated in every case of malignant disease in which the entire diseased structure can be removed by extirpation of the womb; but that it is occasionally very difficult to decide this question is evident from one case which I operated upon. The woman had very fat abdominal walls; the uterus, however, seemed in a condition favorable for removal, being apparently freely movable; the patient only a few days previous had her first troublesome hemorrhage, for which her attendant asked me in counsel. On operation, the broad ligaments were thickened to such an extent that the work became a most difficult task. The patient died of suppression of urine on the fourth day. Unfortunately, an autopsy could not be obtained.

The technique of the operation varies with different operators, and I would therefore only mention the method now adopted by myself. The patient is placed in the lithotomy position, and all possible antiseptic precautions are taken throughout; so much of the diseased structure as can be readily gotten rid of with a sharp curette is removed to prevent infection of the operative field; then again a douche of hot water is used, and a strip of iodoform gauze is packed in the cavity. The organ being well drawn down with vulsellum forceps, the vaginal mucous membrane is freely incised with a pair of scissors posteriorly and anteriorly; then with the index finger the loose tissues from these surfaces of the uterus are torn up as far as conveniently possible, keeping close to the organ. Now a Polk needle—which is undoubtedly the
handiest and most perfect instrument which can be employed for this purpose—is made use of to put a ligature through the lateral structures, first on one side, then on the other; the tissues are cut close to the uterus after the application of each ligature. Care is taken not to get too much substance in the ligatures, lest they be not tied firmly enough and the vessels retract from the stump. In going step by step in this way, the work is much facilitated, as the uterus can, with each successive severing of the tissues, be drawn a little lower. After the cul-de-sac of Douglas has been opened, a sponge on a string is introduced. Should there be any bleeding vessel, this is of course secured. Sharp instruments are seldom or never used, anteriorly or posteriorly, after the cutting of the mucous membrane. The tubes and ovaries are also removed, if this can be done without too much trouble, especially if the patient has not passed the menopause. After the organ has been extirpated, the cavity is washed out again with plain warm water, the ligatures cut off to proper length, and a loose packing of iodoform gauze introduced without any further suturing. I do not consider it necessary to suture the peritoneum and vagina, for the same reasons which Schatz mentions, who has given the subject full consideration in the Arch. für Gynäk., Vol. XXI.—namely, that the shortness of the mesentery is ordinarily sufficient to prevent prolapse of the intestine, unless a descent of the posterior vaginal wall has previously been present; also, after removal of the uterus the bladder fills the greater part of the true pelvis, extending to the anterior wall of the rectum. Septic infection from the vagina is avoided by proper aftercare and the use of the pad, as employed by many in obstetric practice, which was introduced into this country by Dr. Garrigues. There may be very much said about the technique, the advantages and disadvantages, of the different methods employed by various operators, but the limited time allotted me prevents my entering into the subject.

My personal experience cannot be considered an example for statistics, having had only five cases, of which one died; this would then be considered an unfavorable result so far. Whether, however, the patient lost was due to an error in the operation I am unable to say, owing to the lack of an autopsy to see if the ureters had been included in the ligatures. I have been able to see three of the patients operated upon recently, and found recurrence of the disease in two, which is within one year after the extirpation.

It will, perhaps, seem strange that comparatively few cases of cancer should come under observation, in a city like New York, suitable for radical operation; nevertheless, such is a fact, for the following reasons: those suffering with the disease usually do not heed the occasional hemorrhage or the leucorrhea for some time, under the inherited belief that it is due to "the change of life";
or when they come under the observation of a physician who appreciates the gravity of their condition, and they are told that an operation is necessary, and the nature of it, they are "scared off," and perhaps go to some less able person, who uses local treatment, prescribes douches and internal remedies, and when they do return again, after the lapse of some time, to some competent practitioner, the disease has usually advanced too far for a probable successful operation.

It seems to me that the plan adopted by a distinguished foreign operator, with whom I had the pleasure of discussing the subject while abroad last summer, is a very good one and ought to be universally made use of for the benefit of those afflicted with this fatal disease, if it could be done without the risk of legal proceedings—namely, the diagnosis of carcinoma being made, the patient is told that an operation is necessary to cure her, without explanation of the kind of disease or the nature of the operation; consent being given, which is almost invariably the rule, she is placed in a hospital and operated upon; only afterwards she receives information, if it is asked, and there is never any dissatisfaction. But, as remarked above, I fear that one would not only occasionally encounter serious risks for his pocketbook in this country, but also the loss of much valuable time in attending the court, should such persons take it into their heads to bring suit. Physicians are not sufficiently protected by law in America against suits for malpractice. The accidents which are most apt to occur during the surgical procedure are injury to the bladder and ligation of the ureters; the rectum may also be injured, but this is not near so likely as the others mentioned. If the bladder has been injured—which is detected by injecting sterilized milk into the viscera after completion of the operation—it should be immediately repaired. The ureters may be avoided by keeping as close as possible to the uterus in their vicinity with our ligatures or clamps, if such are used.

Dr. A. P. Dudley.—The first case of vesico-vaginal fistula I ever operated upon was one in which the lesion was produced by other cause than the usual one of childbirth. It was due to a pessary made of watch-spring covered by rubber. The spring got broken, but the patient, who was not very intelligent, continued to wear the instrument until the protruding portion cut a hole into the bladder. Quite a large vesico-vaginal fistula resulted near the junction of the urethra with the bladder. I had to enlarge the fistula, owing to the fact that the watch-spring, in cutting through successive layers of tissue, had entered the bladder about half an inch distant from the opening in the vagina.

Dr. Polk.—In one of my cases of vaginal hysterectomy, a vesico-vaginal fistula developed three or four days after the operation. I attributed the late appearance of the fistula to sloughing of the posterior wall of the bladder, which probably had been encroached upon during the operation. Of course the greater danger during the operation is a direct wound of the bladder, as has been emphasized by Martin.
Dr. Boldt has said nothing of the use of clamps. I was much interested in that fact, for it goes to show that in operations of this kind fast rules cannot be laid down to be followed at every step in the operation. The operator finds an open field before him, and the questions of antevertion of the uterus or retroverting it, of conducting the case from beginning to end with sutures or with clamps, etc., are minor ones, the solution of which should be left to individual cases. We should be at liberty to adopt any of these procedures that the peculiarity of the case may call for.

With regard to the use of the clamp, the statement was made before the Surgical Society of Paris that clamps were not needed in cases which were suitable for vaginal hysterectomy. That, it seems to me, is a pretty broad statement. What the author of it no doubt meant is, that a case which is suitable for vaginal hysterectomy is entirely free from any carcinomatous invasion of surrounding structures. Consequently the uterus is free and movable, can be readily drawn down, and the whole operation, in fact, can be conducted as well by ligature as by the use of the clamp. But in a case like that of Dr. Boldt's, in which there was induration about the broad ligament, he could not draw down the tissues which should be ligated. Those, it was implied, were the cases which were not proper for operation, but in which the clamp would serve the purpose of preventing hemorrhage admirably. I believe clamps should always be at hand, but the operator should not feel bound to their use, for there are many cases in which the tissues are so lax that the operation can be completed by the use of the ligature alone. Although the clamp is an excellent hemostatic agent, yet I will confess to feeling safer with a stout ligation around the vessel. The clamp might possibly slip.

Dr. Malcolm McLean.—Too much emphasis cannot be laid upon the proper method of washing out the female bladder. It may appear a simple procedure, yet it is common to see much damage done the mucous membrane, even by educated physicians who must be aware of the delicate structure of the organ they are treating.

Dr. Janvrin.—The case of Dr. Boldt's brings to mind very forcibly the question whether, when the broad ligament is infiltrated by the carcinomatous disease, it is justifiable to go on and complete the operation and remove the entire uterus, knowing very well that if it is done there will be a return of the disease, for the reason that all the diseased tissue cannot be taken out. Several cases have come under my care in which I started to do vaginal hysterectomy; but finding the surrounding tissues infiltrated, I desisted and performed high amputation of the cervix, which I considered the only justifiable measure under the circumstances. I regard total extirpation, whether with the use of ligatures or with clamps, as the more formidable operation, and I have invariably desisted when the disease had progressed beyond the uterus.

Dr. Cushing, of Boston (present by invitation).—I have had three cases of vaginal hysterectomy for cancer, and have used the clamp forceps in all of them. One may not be able to bring the uterus down even when there is not infiltration of the broad ligament. That was true of my first case. The patient had had a localized pelvic peritonitis, and after carrying my finger up and freeing the uterus from the posterior adhesions, the organ could be brought down much easier. I have seen a number of operations, in one of which the broad ligaments were thoroughly tied,
yet the woman bled to death. For that reason I have had more confidence in the clamp forceps, which seem to include everything; yet, as Dr. Polk has said, each operator should use the method which seems best adapted to the case.

Dr. Boldt.—I fully appreciated Dr. Polk’s remark that it is a most difficult thing to avoid the bladder, and had the fistula in this case developed the first four or five days I should not have hesitated to attribute it to sloughing, caused by injury during the operation. But it developed after the lapse of two weeks, and I myself witnessed the manner in which the bladder was washed out, and for these reasons I do not doubt that the fistula was due to the way in which the catheter was employed.

Regarding the remarks of Dr. Janvrin, I was advised by one or two gentlemen present at the operation to desist on account of infiltration of the broad ligament; but having commenced, I wished to go on and complete the work. In this particular class of cases, where there is infiltration of the broad ligament, there is no question in my mind that the clamp can be used to better advantage than the ligature, but I abstained from expressing a preference for one method over another for the reasons given by Dr. Polk. In regard to the justifiability of operating in cases of this particular kind, I recently read an article in the Centralblatt für Gynäkologie in which the author justified himself for operating on a case in which he expected an early recurrence because of surrounding infiltration. Two years had elapsed since the operation, and it appeared that the surrounding infiltration was not due to the malignant process, but to simple infiltration. It was the writer’s belief that hysterectomy was justifiable in many such cases. I do not think I should hesitate to operate in presumptive cases of that sort, if there were any reasonable excuse for it.

Dr. Janvrin.—I should not consider two years’ exemption as evidence that the disease in the broad ligaments was not malignant. If hysterectomy were performed in the class of cases referred to, in which there is infiltration of the broad ligament, the statistics would become less favorable and tend to bring the operation into disrepute. I believe, as Martin has very plainly stated, that we should not remove the uterus for carcinoma, if there is evidence from previous examination of infiltration in the surrounding tissues, and if such infiltration is found during the operation we should desist.

Dr. Boldt.—It seems to me that, when the broad ligament is infiltrated, two years after hysterectomy is sufficient time to show whether the induration was or was not due to malignant invasion. But suppose the disease did recur at the end of that time, the operation would have been justified by the relief which the patient experienced from pain, inconvenience, hemorrhage, and all the attending misery of a sloughing, carcinomatous uterus. We are often justified in practising our art for the palliation of disease as well as for its cure.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Thursday, February 7th, 1889.

DR. THEOPHILUS PARVIN in the Chair.

A CASE OF PLACENTA PREVIA.

Dr. Longaker.—The features of interest in this case are: a. Hemorrhage at the seventh month in p. p. lateralis.

b. The patient was in a septic condition when first seen, a week after commencement of hemorrhage. She was also very anemic.

c. Turning by the bipolar method was at once done, and a living seven months' fetus was born.

d. The patient made an excellent recovery and was sitting up in two weeks.

e. The surface of the placenta showed traces of fatty degeneration. It contained a clot the size of a walnut and several days old. Placenta previa occurred at her last confinement, three years ago, and she came near losing her life from hemorrhage both before and during labor.

CASE OF DISEASED PLACENTA, ANASARCA OF FETUS, AND HYDRAMNION.

Mrs. Z., aet. 28, Ipara, at ninth month of pregnancy. Her first child, lived but a short time. The amniotic fluid was in excess; child and placenta weighed five and three-quarter pounds. About one-third of the placenta was the seat of a well-marked change. There were foci, cheesy in the centre, gradually passing into apparently healthy tissue. These were more or less continued, involving a V-shaped segment. The abdomen of the child was so distended as to cause a slight obstacle to its delivery. Edema of the extremities was slight. Both the pleura and pericardium were distended. The greater part of both lungs was solid, and on section a purulent fluid exuded from the cut surface. The child’s extremities were rigid and flexed. It had been dead but a short time. Careful auscultation had, however, failed to detect fetal heart-sounds during labor.

Dr. Hoffman read the history of a

CASE OF PYO-SALPINX

where he had done laparotomy; patient recovered.

Dr. Horatio R. Bigelow, through the Secretary:

APOSTOLI'S PLACE IN GYNECOLOGY.

After some complimentary remarks on Apostoli himself, Dr. Bigelow went on to discuss the armamentarium necessary for
carrying out the electrical treatment. He thought it necessary to have a galvanic battery, a faradic battery, a collector, a galvanometer, intra-uterine electrodes for both currents, and one for carrying both the positive and negative of the induced current within the uterus, bulbous charcoal-pointed electrodes of various sizes for galvano-caustic applications, intra-uterine platinum electrodes, and large bulbous vaginal and rectal electrodes. The belly plate could be made of potter's clay, in which the metal plate could be buried, or better is the plate devised by Martin, of Chicago. A good galvanic battery should have a slight chemical action and great constancy. The Leclanché cells or those of Daniell he thought the best. With thirty-six Leclanché cells, without a rheostat, a strength of from three hundred to three hundred and fifty milliampères can be gotten. He thought that the collector was invaluable, and that to measure the dosage exactly was an absolute prerequisite of success. The best galvanometer was that made by Gaiffe. The best faradic battery was that of Gaiffe, with a chloride-of-silver cell, and the induced current of high tension from the long, thin wire was the one to be generally used within the uterus.

"The induced current penetrates the tissue profoundly by reason of its high tension, but the continuous current of low tension has a longer and more profound action. We have proved the diffusion of the electric currents, and that the galvanic current propels itself through organic tissues, its influence being felt at remote points: the current never remains limited between the two poles" (Onimus). "If we now consider the difference that exists between continuous and induced currents during their constant passage, we find that it is not difficult to distinguish between them, as the line of demarcation is clear. The induced current acts for an exceedingly short time during its passage. It produces at each instant of passage a greater or less excitation and causes molecular shock. The induced current acts mechanically as an excitant, but the continuous current penetrates the tissues more gradually, but more profoundly, acting chemically in such a way as to produce molecular orientation and chemical combination" (Onimus). The induced current traversing the liquid, semi-liquid, or solid substances that go to form the human body, produces no chemical action whatever, simply a mechanical molecular disturbance. The continuous current, however, not only produces its chemical action at the poles, but this molecular disintegration and orientation is propagated throughout the zone between the poles. Just what the galvano-caustic action is that dissipates a tumor is not yet known; whether it coagulates the albuminoids or creates interstitial inflammation, he does not know. It does reduce the tumor, and it remains for us to find out the why. He believed that time would demonstrate a change of cell life in addition to the purely chemical action which takes place around the poles. In
Apostoli's clinic the induced current is not often used. It has a wondrous effect, however, upon the ovarian pain in hysterical women. Dr. B. has now seen twenty cases of this kind, and every woman received immediate relief after a séance of ten to fifteen minutes. He has seen a large number of bleeding fibroids, but has yet to see one that failed to respond immediately to the continuous current, the positive pole being within the uterus. Apostoli often carries the current up to three hundred and fifty milliamperes without any discomfort to the patient. It is most important that every part of the lining membrane of the uterus should be treated, and every hemorrhage, no matter how severe it may be, will cease. Dr. B. affirmed that the treatment would also very appreciably diminish the size of fibroids and at times entirely dissipate them. He quoted cases to prove this point. Punctures were made into the tumors to the depth of from one to three centimetres, with a lance-pointed steel needle, the galvano-negative caustic being used usually. Everything was religiously clean and antiseptic. None of the patients had any bad symptoms. He affirms that Apostoli's method arrests hemorrhage, diminishes size, relieves pain, and improves nutrition without endangering life, better and more surely than any other method, and asks why then resort to Tait's operation of excision of the appendages. The catarrhal forms of salpingitis yield kindly to the simple action of the continuous current, one pole in the uterus. Dr. B. is not yet ready to offer any decided opinion in regard to pyo-salpingitis. He, however, cited several cases where negative puncture of the tube relieved or cured the case. In metritis the galvanic or faradic current should be used as one or the other agrees with the patient. Apostoli says that "this treatment, applied according to his double or bipolar method, is an excellent, and sometimes sovereign, remedy in certain cases (recent subinvolvement, chronic metritis in its first stage), inefficacious or at least very insufficient in others (such as chronic metritis in its latter stages), and in endometritis in any form." In endometritis the continuous current and the positive pole within the uterus are used. He cited some cases of fungoid endometritis which had been cured. Dr. Apostoli faradized every woman, even when under an acute attack, who was suffering from peruterine inflammations, observing certain rules which he has laid down. In the subacute stage he uses first bi-uterine faradization with a current of tension; when the inflammation begins to give way he uses the intra-uterine continuous current, beginning first with the positive pole, and following with the negative as soon as he is sure that the patient can bear it. In the chronic stage use the continuous current and galvano-puncture (negative), making the puncture in the diseased part itself. In old cases of perimetritis with much tenderness around the utero-sacral ligaments, much relief may be obtained
by the vaginal electrode in the posterior fornix, while the negative pole is on the abdomen, using the induced current of high tension.

A YEAR'S WORK IN A MATERNITY HOSPITAL.

DR. JOSEPH PRICE.—In making this report, I desire briefly to call attention to the amount of work done, the routine treatment of patients, and a few alterations which have taken place in the building. During the year 1888, there were 184 deliveries in the Retreat. Of these patients, 69 were primiparae. There were 188 children born, including two sets of twins; 9 of these infants were still-born; 102 were males, 84 were females. There were 13 forceps deliveries. Labor was induced in two cases in the eighth month—in one case a contracted pelvis, and in one the presence of a large uterine tumor. There have been no deaths of mothers in the Retreat for a period of nearly five years, furnishing a series of 540 deliveries without a death, the last death being from puerperal convulsions in a patient suffering from chronic Bright's disease, and who had had convulsions in five previous labors. Since this death there has not been a case of puerperal septicemia in the institution. The great success attending the work of this Maternity is due to the strict enforcement of the law of cleanliness. Everything and everybody in the house is clean and jealously kept so. This system was enforced by Dr. Goodell, and has been carried out on the lines laid down by him. The routine treatment of patients is as follows: The patient, on entering the house, is given a hot soap bath, dressed in clean underclothing, and given a clean bed in the waiting ward. If necessary, a laxative is given, and the bowels kept soluble during her waiting period. Thereafter, until her confinement, she is obliged to take at least two hot soap baths per week and to wear clean clothes. She is allowed to do such light work about the house as the physician may deem advisable, and is encouraged to take as much open-air exercise as circumstances will permit. Every effort is made by the officers and employees of the institution to make it as cheerful and home-like as possible. When ready for the delivery room, the patient is again given a hot soap bath, and an enema and a vaginal injection of 1 to 2,000 bichloride-of-mercury solution. She is clothed in clean night robe and drawers, and placed upon a new, clean delivery bed. Scrupulous cleanliness is observed in all manipulations of the patient, and after delivery a second vaginal injection is given, and a vaginal suppository of iodoform is introduced. The patient's person is carefully cleaned, and all soiled clothing removed; the binder applied. a clean set of night clothes put on, and the patient placed in a new, clean bed in the ward. All of the soiled articles are immediately removed from the delivery room, and a new bed made up for the next patient. The patients in the ward are carefully observed by the nurses, but no unnecessary handling or interference indulged in. The patients remain in the ward until
they are able to be up, when they are removed to the convalescent ward. As the ward is emptied, the beds are burned and all the bedding most carefully cleansed. No soiled linen (as draw sheets, diapers, napkins, or other articles of clothing) is allowed to remain in the ward, but when soiled is immediately placed in a covered receptacle and removed from the ward and building. No sponges, wash-rags, or absorbent cotton are used in the house. Corrosive jute supplies the place of these articles; being clean, soft, remarkably absorbent, and cheap, it is destroyed immediately after use. The pads used to absorb the lochia are also composed of jute, and are likewise destroyed after use. The beds in the wards are of new straw. All discharges from the delivery room are immediately burned. All bedding soiled beyond cleansing, or contaminated by purulent or specific discharges, is likewise burned. In short, every effort is made to keep the house perfectly pure and sweet. The arrangement of the house permits of rotation in the use of the wards, so that a ward, once emptied, is not again used until three others have been filled. In the meantime it is most carefully and scrupulously cleaned and thrown open to the atmosphere. A similar system is pursued in the convalescent wards and delivery room. A few alterations in the building have very markedly increased the effectiveness of the institution and the comfort of its inmates. In the first place, the bath-rooms and water-closets have been removed from the building proper, and placed in the towers in the rear. The plumbing is as near perfect as modern sanitary science can make it. The verandas have been inclosed in glass, forming large, light, airy corridors about the rear of the building, and furnishing a distinct, circulating atmosphere between the house proper and the wards and the water-closets. The ventilation of the entire building is simply perfect. The capacity of the house at present is about fifty patients per month, and, when a few contemplated changes are made, the capacity will be doubled and the institution rendered as nearly an ideal maternity hospital as is practicable.

Dr. Wm. Goodell said it had always been a matter of great regret to him that he did not adopt this system a year or a year and a half before he did. He supposed it was partly due to the conservatism of old age, and partly to a series of some forty deaths from bichloride poisoning he had collected. Tarnier's reports of the results following the use of this agent so impressed him that he was led to make the change. Before he adopted the system which has just been detailed by Dr. Price, he had once as many as five deaths in about one hundred and fifty cases, four of these due to septicemia. Latterly, hardly a year would elapse without the occurrence of one or two deaths. When he first started, everything about the institution was new and clean, and for several years he had the best record of any maternity hospital in the world. After the building and articles had become old, deaths began to occur. He tried carbolic acid, but it proved of little value. After beginning the use of corrosive sublimate injec-
tions, iodoform suppositories, and antiseptic pads, he did not have a death from septicemia. The only death was one from Bright's disease of the kidneys. During this time he had been consulted perhaps a dozen times in the course of a year to see women dying from puerperal septicemia. He thought that in private practice it would not be needful to follow out so strictly the details of the method as it is practised at the Preston Retreat. For instance, the antiseptic pad and the iodoform suppositories might be done away with. He believed, however, that every practitioner should syringe out the vagina, both before the birth of the child and after complete delivery, with a bichloride solution of 1 to 2,000. The hands should also be disinfected. He was called in consultation by a physician in the country, who had had four or five deaths from sepsis in a short time; he found he had been treating a case of phlegmonous erysipelas. He knew of another physician who had lost, he thought, seven cases, certainly five, from dressing a sloughing case of erysipelas. Antiseptic measures would probably have saved all these cases.

Dr. Henry Leaman would call the attention of those who have the opportunity of observing the physiological processes of labor to one point, viz., presentation. It is very difficult to accurately determine the presentation, particularly of the face, brow, and posterior presentations. These observations should be verified by examination of the abdomen previous to labor, and the location of the fetal heart-sounds. They should also be confirmed by observation of the position of the head in the act of delivery. A mistake is readily made in posterior presentations. Posterior presentations are, he thinks, more frequent than we are in the habit of considering them. His object in speaking was to say that every case of labor was a case for the minutest observation. There was another point which he thought should be observed—that was the hour of the day at which labor occurs. There is, he thought, probably some connection between arterial pressure and the time of delivery. In recording the hour, there would be an allowance to be observed in cases where the forceps were used. There was another point not mentioned, and that was the position of the succedaneum and its extent. These have to do with the natural process of labor, and aid in determining the presentation.

Dr. J. Price said he was as anxious about a labor as he was about a section. When he read reports of maternity hospitals with a mortality of from two to twenty-seven per cent, this troubled him not a little, now that he controlled a large maternity hospital, one in which Dr. Goodell had left a record of two hundred and seventy-five cases without a death. He sees a labor case as frequently as he does a drainage after abdominal section. When this hospital was new, Dr. Goodell had a run of two hundred and fifty cases without a death from any cause. This was the longest run of any institution at that time; after this, deaths began to occur. Later he adopted the gospel of cleanliness, and with what result he has just told you; the results are now precisely the same as he left them. In regard to Dr. Hirst's question, as to whether the same results might not be obtained by simpler methods, Dr. P. said that they did not differ much in regard to the use of solutions and that portion of the treatment. The toilet of the house was perhaps just as systematically carried out at the Philadelphia hospital as at other institutions. The pad which he had shown would hold a pint of fluid. It saved an immense amount
of laundry work. It was now coming into use as a menstrual pad, and was very convenient for ladies travelling. In private practice the mortality was greater among the rich than the poor. Among the poor he had had seven hundred deliveries without a death. He thought the difference was in the water-closets, which the better classes had in their houses. The mortality throughout the country was large. In a small town in Ohio, with a high elevation and beautifully located, he had recently known of two deaths from septicemia. Last summer he had been called to see puerperal cases nine times, and all died.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, January 25th, 1889.

The President, Charles T. Parkes, M.D., in the Chair.

Dr. J. Frank (present by invitation) exhibited

A LARGE ABDOMINAL TUMOR ATTACHED TO THE INNER SURFACES OF THE SIXTH AND SEVENTH RIBS.

He made the following remarks: C. W., 26 years old, American. She is one of a large family, all of whom are strong and healthy. Began to menstruate at 15 years, and always menstruated regularly without any trouble. Married two years ago. April, 1887, shortly after marriage, noticed a hard place, about the size of an orange, without external swelling, in left epigastric region, a little below the border of the ribs. This was attended with some annoying "stitching" pains, but the pain was not bad enough to interfere with her household duties. The taking of food did not influence the pain in any manner. The appetite and digestion were good, and bowels moved regularly. Operation at this time was advised, but was refused. She became pregnant in July, 1887. The tumor remained stationary in size up to this time. The pregnancy was passed through without anything of note. Labor was completed in from four to five hours, a child of medium size being born. It was now noticed that the tumor was very much larger than before conception—she says, about the size of a baby's head—and showed plainly through the abdominal walls. At this time there was no distress from the tumor, the pains incident to its early growth having ceased. During lactation the tumor grew steadily, and at eight months the child, which was healthy and large for its age, was weaned. In the subsequent three weeks the tumor increased rapidly in size; the patient states that within that time it became at least one-fourth larger. She complained
only of the discomfort a tumor of that size would naturally cause. The case presented itself at the St. Elizabeth Hospital, December 10th, 1888, as private patient, for operation.

The pedicle was attached about where the sixth and seventh ribs articulate with the costal cartilages. The tumor weighs twenty lbs. and measures thirty-one by thirty-three inches. The pedicle was not less than three inches wide and not half an inch long. Almost the entire greater omentum was strongly adherent to the tumor. The lower border of the stomach and part of the upper portion of the ascending and transverse colon were adherent. The uterus and ovaries were normal. The pedicle, macroscopically, seemed to be formed of the transversalis muscle, fascia, and peritoneum.

At the operation we supposed it was an ovarian tumor; but when the walls were opened enough to see the tumor, it was recognized to be something different, and the incision was made long enough to get it out en masse.

It is now eight weeks since the operation, and the woman is walking around. I may state the way in which the pedicle was handled. After the tumor was removed and the pedicle cut off, the question arose what to do with it, because it lay far under the ribs and did not come within two and one-half to three inches of the incision. The stump, what there was left of it, was sewed to the peritoneum. Tension sutures were taken far back into the stump and carried to the other side of the incision, and tied very tightly. She went along two weeks without fever, but finally developed some fever, for which we could not account. I think I drew the sutures that included the pedicle too tightly, which cut off the circulation. There was a little sloughing there, and two ligatures came away—I suppose those that were left on the omentum. Now she has a little fistulous tract where the pedicle was, and on the right side there is a flat, hard mass the size of a hand; it is entirely mobile; it is shut off from the abdominal cavity, and I think it is a number of ligatures remaining in the omentum. It is probably lymph thrown around them that makes the mass, and it will some day form an abscess and throw off the ligatures, or they will become encysted and stay there. I used silk for retention sutures to close the abdominal cavity, and for dressing sutures I used catgut, and in every one of the stitches where catgut was used there was pus; where silk was used there was not any pus.

The specimen was referred to the Committee on Pathology for report.

Dr. H. P. Newman.—I was particularly interested in Dr. Frank's case, as I was present at the operation. It seems to me of great interest from its large size, very rapid growth, and extreme vascularity, and also from the difficulty with which a diagnosis could be made both before removal and since then. A specimen of the pedicle is here under the microscope, about which Dr. Saurier pos-
sibly can give us some information. I think Dr. Frank is to be congratulated for his persistency and success in removing the tumor. It was a very formidable operation, owing to the tumor's vascularity and the large number of blood-vessels that had to be ligated—at least one hundred.

Dr. Saurier.—At Dr. Newman's request I made a microscopical examination of a small portion of the tumor which he gave me, and am sorry to say that I did not understand that he wished it preserved. The first that I examined was thrown away. He told me afterwards that he wished a slide to present to the Society, but I found that I had used up the best material. The major part was composed of nothing but muscular and fibrous tissue without apparent abnormality. The small portion, of which there is an imperfect specimen here, was composed of glandular structure. I had not seen the tumor and knew nothing about it except that it was taken from what was supposed to be the pedicle. My examination led me to believe that if it was a pathological growth of a solid nature, it must have been lipoma, though I was not positive. The tissue may have been almost normal glandular structure.

The President exhibited

A FIBROID TUMOR OF THE UTERUS THAT OCCUPIED THE PELVIS MINOR.

He made the following remarks: I have here a fibroid of the uterus to which I wish to call your attention. It is interesting mainly on account of the position it occupied in the pelvis. When you have the specimen before you for inspection, I think it will trouble you some to find the os. Here, you will notice, is what remains of the cervix. The division was made through the cervix close to the vaginal junction. Here is the body of the uterus, which stands directly on top of the tumor. The tumor grew into the pelvis; the patient presented herself with an occluded pelvis, unable to evacuate the bowels or the bladder. There was the greatest difficulty in drawing her urine; the anterior wall of the vagina was drawn up so that the urethral canal could scarcely be found, and when found it was with great difficulty that a catheter could be introduced, and at times it was impossible. The tumor protruded far into the pelvis and grew downward, so that it almost presented at the vulva, covered over by the vagina, especially on the right side of the body, forcing itself into the pelvis and showing very little tendency to project into the abdominal cavity. By means of bimanual examination it was almost impossible to feel the tumor through the abdominal walls.

I made an abdominal section for the removal of the tumor. From the position of the urethra it was most probable that the bladder was crowded up in front of the mass. A very careful incision, purposing to avoid the bladder, was made through the abdominal wall. The caution was well taken, for I came directly upon the bladder. Upon opening the peritoneal cavity, one had nothing but the blocked-up pelvis to look at; on top of this tumor was the
body of the uterus, not enlarged beyond its normal condition. The tumor seemingly grew from the posterior wall of the cervix and developed downwards in such a way as to remain wedged into the pelvis when the abdominal cavity was opened. When this condition of affairs presented itself, there was some hesitation as to what should be done. There was no possibility of lifting it up, because it was held down by the broad ligaments. I therefore made an incision in the interval between the anterior wall of the uterus and the bladder on the left side, the whole width of the pelvis, through the broad ligament. This enabled me to get my hand on the under surface of the tumor; passing the hand beneath it, I turned it over and removed it in this inverted position. After placing large clamps across the entire surface, it was cut away. Of course the question then arose as to the control of the hemorrhage. The vessels that were in this long incision were picked out and ligated separately. The stump of the cervix was ligated in halves, including, I believe, in the ligature the uterine artery; at least, there was very little hemorrhage after that was done. The operation left the entire pelvis raw, the broad ligaments on both sides open, the cavity of the pelvis open clear to the levator ani muscle. The plan adopted was to sew the margins of this divided peritoneum completely across by means of a long catgut suture, commencing at the left side of the broad ligament, and so closing the cavity in which the tumor had lain away from the peritoneal cavity. In order to secure freedom from infection, possibly through the stump, it was cauterized with the Paquelin cautery. The plan of drainage used was that adopted by Martin, of Berlin, draining through the vagina by means of a T drainage tube. A long tube, with perforations in it for several inches, has a short piece passed through it near the end, so that there is a drain from the perpendicular tube and a drain from each end of the lateral tube. In that way the cul-de-sac of Douglas was drained through the space in which the tumor lay and into the vagina. The operation was done November 16th and the patient discharged from my care November 29th. At no time during the course of her recovery was there any temperature that gave anxiety. This drainage tube was left in until the second day, and, as there was no flow of any consequence therefrom, it was removed. The manner of removing the drainage tube is to pass two fingers through the vagina up to the opening therein, and pull on the tube quickly and firmly; it came out, followed by several ounces of bland, bloody serum, not of any consequence, and the lady recovered perfectly from the operation.

For so simple a tumor as this in size it was in all respects the most formidable operation, in the extent of the incision and damage done to the organs of the pelvis, I have had anything to do with.
DR. ETHERIDGE.—What was the tumor diagnosticated to be?
The President.—Previous to the operation? Fibroid tumor of
the uterus.

DR. ETHERIDGE.—Are the ovaries included in it?
The President.—Yes, sir.

DR. H. T. BYFORD.—I would like to ask Dr. Parkes whether it
would have been possible, either after opening through the cul-
de-sac or before, to have pushed up a pair of forceps on either
side, clamping the broad ligaments, taken out the cervix, and
drained between these forceps—in other words, performed a total
extirpation?

DR. A. H. FOSTER.—I am glad that I saw Prof. Parkes take
that out: it was a good deal of a leap-frog operation. I never saw
anything equal to it. I saw the doctor hesitate only about half a
minute to review his anatomy, and he delivered the tumor most
successfully. I concluded he was thinking whether he could save
anything or not.

The President.—I do not know that I have anything further to
say, except to answer the inquiry of Dr. Etheridge as to the attach-
ment of this tumor. The tumor grew into the cellular tissue on
the left side of the pelvis, was found loose in it after the broad
ligament was divided, but was held firmly down by the tension of
this ligament. But after the incision was made over the tumor,
my hand went very readily to the under surface of it; I turned it
over and cut it off. In this way it was lifted out of the pelvis
and could be managed.

With reference to the plan suggested by Dr. Byford, after re-
moving the tumor, to pass the forceps down the half-inch of cer-
vix that was left, I cannot see any gain, unless it be that a removal
of the small particle of hard tissue would have left an opening
through which drainage could take place. There would be no
reason for removal for that purpose, because the ligaturing of the
open-mouthed vessels was sufficient to control them after the
tumor had been removed.

I want to say a word or two about the interesting specimen pre-
sented by Dr. Frank. I am sorry it has not elicited more discus-
sion. I was particularly interested in what the doctor said about
the use of catgut and the use of silk. I think we should awaken
to the facts in connection with these materials as soon as possible.
He says, as I understood him, that all the sites where the catgut
was used suppurated. This has been the experience of most sur-
geons who keep on using catgut, and I think it is dependent on the
unreliability of the material: we cannot get it perfectly aseptic at
all times. This has become such an annoyance that a great many
surgeons do not use it at all. Silk is more easily obtained pure,
more easily prepared when it is obtained, and keeps longer.

If I should be allowed to venture a suggestion about the rapid
growth of this tumor, I think it could be easily explained on the
ground of the absence of pressure of the previous pregnancy. The
history, as read, was that the rapidity of its development came on
immediately after the birth of the child—after the pregnancy—
and of course a great amount of pressure was taken off the tumor
and the large blood-vessels which enter its walls, thus allowing
the blood to accumulate in its capsule: and that, perhaps, is the
reason the contents are mainly blood. No one can harbor an
opinion as to the character of the tumor pathologically. The
mass we see there rather bears out Dr. Saurier in supposing it to
be a lipoma, although perhaps it has more resemblance to the contents of a dermoid cyst. With reference to treating the pedicle, I should have no hesitation in treating a pedicle of that kind in the same manner as with an ovarian tumor; that is, to ligate it and drop it. It makes no difference in what part of the abdominal cavity the pedicle is found; the best way is to ligate and drop it. I never think of treating it out of the abdominal cavity, as was formerly the custom.

**Dr. W. W. Jaggard showed the following**

**ANOMALIES OF THE PLACENTA.**

1.—*Placenta Succenturiata.*

Dr. Brown, of Cook County Hospital, gave me this specimen. It is an example of placenta succenturiata.

Total weight of placenta and membranes, 419 gm.; long diameter, 18.2 cm.; conjugate, 15 cm. Cord 40.5 cm. in length is inserted into the centre of the principal placenta. The supernumerary placenta is a nearly circular disc, with a long diameter of 7.5 cm.; conjugate, 7 cm. It is separated from the principal organ by a narrow strip (two centimetres wide) of the chorion leve that is traversed by blood-vessels.

According to F. Winckel, this anomaly occurs in from one to two per cent of all cases.

It is generally thought that placenta succenturiata arises from the development of a group of chorionic villi outside of the region of the decidua serotina. A specially developed vascularization of the decidua reflexa at this point is supposed to aid in the process. Otto Kiistner,¹ however, advances the opinion that often the placenta atrophies throughout its entire thickness, as in case of "white infarct." Portions, peripheral to this region of coagulation necrosis, are supplied with blood, and continue functionally active. If the region separated by the white infarct is relatively small, it is designated placenta succenturiata; if relatively large, the organ is spoken of as double placenta. This view is based upon the microscopic characters of the strip of tissue that lies between the principal and supplemental placentæ. This tissue in many cases, he alleges, does not possess the characters of the normal chorion leve, but rather those of the chorion frondosum. The decidual layer that is subjacent to this strip possesses the characters of decidua serotina.

I will have the specimen carefully examined to determine the facts in this case.

2.—*Velamental Insertion of the Umbilical Cord.*

This specimen, also presented by Dr. Brown, is a typical example of velamental insertion of the umbilical cord. Weight of placenta, 368 gm.; long diameter, 18 cm.; conjugate, 15.7 cm. The

cord, 70 cm. in length, is inserted into the chorion leve at a distance of eight centimetres from the edge of the placenta. The vessels of the cord separate at the site of insertion, and pursue a straggling course in the chorion leve to the placenta.

Occurrence.¹—Ninety cases in 11,000 labors, or .82 per cent (F. Winckel); Chiari and Cornelius observed the anomaly 40 times in 8,000 cases, or 0.5 per cent.

According to Hyrtl and Winckel, velamental insertion of the cord occurs most frequently in female children; also in twin pregnancy, transverse and pelvic presentations (Steinloch).

Causation.—B. S. Schultze² offers a plausible explanation of the origin of the anomaly that is shown in the cut (Fig. 1). This schematic figure represents an ovum corresponding to the sixth week. The chorion bears villi, into which grow the twigs of the vessels of the allantois. In the region of the decidua serotina—the future placental site—these vessels are larger and in a higher state of development, while for the remainder of the periphery of the ovum they are smaller or have already begun to atrophy. The amnion envelops the allantoic vessels and the ductus omphalo-entericus like a sheath before it reaches the periphery of the ovum. The cord as yet has no insertion into the chorion, and

¹Abirosoff, Deutsche med. Wochenschrift, 1882, Nos. 28 and 29.
its constituents reach that membrane singly. But suppose that at this period the umbilical vesicle \((u)\) becomes adherent to the chorion or amnion \((c)\), and that the ductus omphalo-entericus does not grow in the same tempo with the other structures of the cord. Then the adherent umbilical vesicle draws the umbilical sheath \((b\, d)\) so far away from the chorion frondosum that the vessels of the umbilical cord are compelled to run in the chorion leve \((f)\).

Velamental insertion of the cord is of high practical moment. The blood-vessels of the cord may run in that portion of the membranes that forms the bag of waters. Under these conditions, the placental respiration of the fetus may be disturbed by pressure of the presenting part upon the vessels of the cord. When the bag of waters breaks, one or more of these vessels may be torn, and the fetus may perish from loss of blood. Some two years ago an example of this accident was reported to the Society. In the case presented to-night, the placenta was apparently situated high up in the cavum uteri, and the malformation of the insertion of the cord was without influence upon the character of the labor.

3.—Placentae of Homologous Twins.

These placentae, three in number, are of special interest, since they are examples of the organ present in cases of homologous twins. Each placenta is single, possesses one chorion and two amnions. The twins were of the same sex. As the twins originated in a single ovum, the placentae possess some pathological dignity. It is still uncertain whether homologous twins arise from a single ovum with two nuclei and nucleoli, or whether the embryonal area is single at first to undergo fission later. The weight of opinion and evidence, however, is in favor of the latter view.

Dr. Bayard read an inaugural thesis, entitled

SECONDARY MIXED INFECTION IN SOME OF THE ACUTE INFECTIOUS DISEASES OF CHILDREN.

\(\text{(An Abstract.)}\)

One of the earliest manifestations of the struggle for existence was the development of parasitism. A parasite may be helpful or destructive to the host, or it may occupy a place intermediate. From a consideration of the well-established laws of evolution, we may assert:

1. That a destructive parasitism may not be an obligate parasitism; but

2. A destructive obligate parasitism may exist when the causes determining the initiation of the parasitism are the same as those determining the perpetuation of the host species.

3. A destructive obligate parasitism may exist when its relations
are such that it appears only after the reproductive period has passed, or after the reproductive act has been accomplished.

4. An obligate parasitism signifies an ancient, an uninterrupted parasitism.

5. Most obligate parasites are not only non-destructive but even helpful to the host.

6. The less destructive a parasite is to the host, the fewer the means of offence and defence which the host species offers to the attack of the parasite; and, *vice versa*, the more destructive the parasite and the longer it has continued in relation with the host, the greater the resistance which the host species manifests.

7. All destructive parasites are facultative parasites. These theorems are discussed at some length and illustrated by typical examples.

The relation of parasitism is not confined to any class. It exists among two species of the lowest and most undifferentiated kinds, and between two species high in the scale of development; but it is most common between the very lowest orders and all forms above them, *i. e.*, between the unicellular organisms and the highly evolved multicellular animals and plants.

From a pathological standpoint, we may consider a parasite which occupies the blood-vessels *hematophytic* (malaria), while one that thrives in the intercellular spaces might be termed *lymphophytic* (erysipelas).

The exact demonstration of the bacteria which are the prime etiological factors of the different acute infectious diseases of children, awaits further research. Clinically they have long been shown to be due to a *contagium vivum*. All research shows only that measles and scarlet fever at least are obligate parasites of man. We should think, therefore, that they would be non-destructive.

We find, besides the few cases in which measles and scarlet fever appear as terminal diseases, most of the dangerous and fatal cases are consequent to secondary infection with facultative parasites, which obtain access to the body at the point of local lesion of the disease. The pneumonia and nephritis are due to bacterial origin; the hemorrhagic character of some cases to infection with the *Bacillus septicemico hemorrhagice*; the "cervical involvement" to infection with the *Streptococcus pyogenes*. In seven cases the author has found this microbe in the pus from these abscesses, and in two cases of nephritis a similar coccus has been cultivated from the urine. All cases of secondary nephritis are held as cases of bacterial nephritis due to the embolism of the finer arterial capillaries of the kidneys with bacteria from the lungs or valves of the heart.

Besides the direct evidence of the bacterial origin of the post-scarlatinal nephritis, the origin of suppurative nephritis, epidemic
bacterial nephritis, and nephritis in specific pneumonia, typhoid fever, and erysipelas, are cited as collateral evidence.

The frequency of tuberculosis of the lungs after measles, and cervical tubercular adenitis after scarlet fever and mumps, is explained on the assumption that infection with tuberculosis takes place where the lesion of the primary disease is most marked.

The paper closes with the following suggestions:

(1) That, as there are no known means of averting the dangers of secondary infection, every effort which the State and the medical profession can use should be exerted to isolate and prevent the spread of the primary disease.

(2) That, when a patient is suffering from any one of the primary diseases, every effort should be made to sustain the vitality and strength of the patient at the highest point, and to exclude and eliminate all avenues by which the secondary infection is known to arise.

(3) That, as the evidence now stands, all the complications of these diseases are due to secondary infections, and the examination of pathological products by the aid of bacteriological methods offers the greatest, if not the only, hope of that thorough knowledge which is necessary to a proper therapy.

Dr. E. J. Doering.—One point I would like to speak about. The doctor suggests the advisability of keeping up the nutrition of the body to the highest point possible. It is a clinical fact that if you keep the child on a strictly milk diet, it will do much better than on meat and a general mixed diet. I think that holds good in all diseases like scarlet fever, in which you are liable to have nephritis. I have seen a good deal of that, and I am certain that by keeping the patient quiet and on very light diet, not the most nutritious, you are more likely to escape nephritis. This is a most important point clinically.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of January 10th, 1889.

J. G. Hyndman, M.D., Chairman pro tempore.

ON THE QUESTION OF THE INDUCTION OF LABOR FOR ECLAMPSIA.

Dr. W. H. Taylor said he desired to open the discussion on eclampsia, only with reference to treatment. A recent experience with two or three cases had led him to weigh carefully the question of the induction of labor in cases where there was a tendency to eclampsia.

One case was seen recently with Dr. Berteling. The patient had
nad a number of children, being in the seventh month of her fifth pregnancy. When seen by the speaker she was unconscious and had been so for several hours; she had complete dyspnea, was edematous, and voided but a small quantity of urine, which was very albuminous. She was also a sufferer from chronic bronchitis. She was treated with purgatives, the hot pack, and diuretics. The woman gradually became conscious and slowly returned to her former condition under the continuation of diuretics, purgatives, the milk diet, etc., until she went to her full time, when the case terminated in complete recovery. The question of the induction of labor occurred to the speaker when the patient was first seen by him, but he was indisposed to do it, partly on account of the objection raised against it by other practitioners who had seen the case.

Just before the last meeting of this Society, he was called to the suburbs to see in consultation a young girl who was several months pregnant for the first time. Her first symptom was an inability to see with one eye, to which little attention was paid by her family. She then complained of an intense headache, and went to her room. Suddenly, about noon, her mother was startled by a heavy fall, and, hastening up-stairs, found her daughter unconscious on the floor. This was at 12 o'clock; at 2:30 P.M. she was first seen by the speaker, when she had already had two convulsions. During his presence she had another, which was controlled by chloroform. Previously she had had large doses of bromides. As soon as chloral could be obtained, forty grains were given by injection into the rectum, and two doses of croton oil by mouth. The urine on testing proved very albuminous. There was no edema or any other indication of kidney disease; indeed, she had the appearance of perfect health. She was kept under this line of treatment—chloral and chloroform—until consciousness gradually returned, and in two or three hours she recognized those about her. Consciousness, however, did not return perfectly until the morning of the second day. During this interval she had seven convulsions. During the conscious period there were several suggestions of uterine contractions, but the reflex irritability of the patient precluded the possibility of making a vaginal examination; even the rectal injection produced convulsions. Under a general line of treatment for albuminuria the patient apparently recovered, as she was able to get about her room and was not seen again. Three weeks later the speaker was requested by her physician, late in the evening, to see her the next morning, as the patient had an intense headache and was altogether in a serious condition. Early in the morning, when about to visit her, he was informed that the patient had died during the night.

A few weeks ago he was called early in the morning to see an aged primipara. She had been edematous for some time, had
uremic dyspnea, her lips were purple, and her heart beat rapidly—in fact, she appeared to be in a very dangerous condition. She had her feet in hot water when the speaker arrived, and he gave her a temporary remedy of digitalis with carbonate of ammonia, supplemented by mild counter-irritation. He saw her again after two or three hours, when the dyspnea had markedly decreased and the urine showed but a slight trace of albumin, yet all the other symptoms of Bright's disease were marked. The quantity of urine voided was not less than normal, but it contained an enormous amount of urates, which cleared up under the application of moderate heat. The precaution of filtering the urine was taken, so as not to obscure the test for albumin. The patient was soon able to lie down and sleep, dyspnea disappeared, and she had but one paroxysm in ten days. She was, therefore, removed to her home.

The speaker concluded that, whilst there was little difference of opinion regarding the proper treatment of eclampsia, the question of the induction of labor might arise as a preventive. His first case was a great triumph for the expectant treatment, but the unfortunate termination of his second case changed his opinion as to the propriety of such treatment in all cases. A strong argument against the production of labor is the destruction of the child's life. In the second case he was not disposed to jeopardize the life of the child when the mother so readily responded to treatment.

Dr. Stantox questioned the propriety of inducing labor when there was so great irritability of the nervous system. He considered it a very great risk, because the life of the mother as well as that of the child would be jeopardized. He regarded the proper treatment of the nephritic trouble better than the induction of labor. The second case reported would have died if such measures had been instituted, hence it is better to wait until there is time for improvement. He did not regard the presence of albumin so much an element of danger as the presence of tube-casts. In such cases microscopic examination is of greater importance than a chemical test. The treatment is in so far simplified as chloral is an indication for the nephritis as well as the eclampsia. All of the cases seen by the speaker occurred in consequence of labor, and one-half after the delivery of the child.

Dr. Illowy remarked that his experience with puerperal eclampsia, or the eclampsia occurring in pregnancy, was limited, but that, theoretically, it appeared to him that before the question of the induction of premature labor, when such a complication supervened, could be discussed, it would be necessary to previously fix the limits within which this question might arise.

There must be first ascertained the degree of nephritis existing: the state of the uterus, whether quiescent or not, for frequently the false pains are themselves the exciting cause of the convulsions: then the important question, Can the convulsions be kept subdued and the nephritis from progressing by other therapeutic measures, or not?

If the diagnosis of a nephritis had been positively established,
he could not see what benefit could be derived from the continued use of chloral. He understood how it relieved the convulsive symptom, but did not see the rationale of its continuous employment; on the contrary, it seemed to him that such continued use might be provocative of harm, the depressant effects of the continued use of chloral on the heart, in fact on the whole organism, being well known.

There is, however, another point of great importance to be remembered in the presentation of so important a question as that propounded this evening, and that is, that the presence of albumin in the urine is not, as has been established by late investigations, per se evidence of the existence of Bright's disease. It is true that we cannot always wait for the presence of tube-casts and epithelial scales to confirm the diagnosis; but then, as it is not a single symptom that makes the diagnosis, the aggregation of symptoms that go to make up the diagnosis of Bright's disease should be well defined before we reach such a conclusion and take into consideration so grave a measure as the induction of premature labor.

It is now well established that we may have convulsions from reflex irritation, and he had seen some cases, reported by him some years ago, where a full bladder appeared to be the exciting cause of the convulsions; and we may have them of an hysterical origin. And it is also well known that convulsions so produced may cause the presence of albumin in the urine.

Furthermore, a hydremic condition of the system may give rise to the convulsions, but that is not always a source of great danger.

Hence, if it is proposed to consider the question of induction of premature labor for eclampsia, we must first have the category of cases, in which this question might arise, well defined.

Dr. Gustav Zinke said that the first case reported, which terminated favorably, showed the wisdom of expectant treatment. Were he confronted with such a case, the os contracted and an entire absence of signs of commencing labor, he would not interfere. We must be guided more or less by the cause of the convulsions. In the second case there seemed to be no serious disease of the kidney. The conduct of the obstetrician in a case will be quite different if the woman be already in labor; if the membranes be ruptured and the os partially dilated, it is not advisable to wait; while previous to this we should, for a time at least, remain inactive and interfere only if the convulsions return regularly and in rapid succession. By inducing labor early in the latter cases we may produce the very accident which we desire to avoid. Hence he was inclined to side with the reporter of these cases and indorsed his treatment, notwithstanding his second case terminated fatally.

Dr. Carpenter said, in the cases which she had seen, premature labor was induced in each instance. The evidence was, however, in favor of the expectant treatment, as the result was favorable for the mother, but not so for the child.

The amount of albumin in Bright's disease is not settled. She had a case where an analysis was made every day for eight months. With the most delicate testing, albumin was found but once, and then in very small quantity, whilst the presence of tube-casts was constant.

Dr. Reamy regarded the question raised by Dr. Taylor of great importance. The cases reported bear testimony, as far as results
go, of arguments on both sides. It seemed to him, however, in order to arrive at a proper conclusion, we must recognize a few principles. First, What are the uniform conditions underlying these attacks? At the present time those having the largest experience and able to arrive at the most accurate conclusion agree that two things are of the utmost importance, as regards the causation of convulsions and the question of the induction of premature labor—namely: 1. The exaggerated nervous state due to pregnancy itself, which is the underlying cause. We do not know the real cause of labor, but it is probably the accumulation of nervous force which is discharged at the time that the pregnancy usually terminates, and thus becomes the immediate cause of labor. One reason why primiparous are more prone to eclampsia is not because there is greater renal pressure, but that the reflex nervous state reaches its highest development. With certain women any irritant may produce a convulsion.

After the pendulum has at different times swung one way and back again, there are few men at the present time who do not recognize the importance of nephritic symptoms in the production of puerperal convulsions. It is now so universal that it is regarded as the chief cause.

In Guy's Hospital, for forty years, only two cases have been reported where no renal cause was found, and in one of these the convulsion was after post-partum hemorrhage. In a large proportion of cases not only is albumin found, but, if they were examined critically in all cases, renal epithelium as well as tube-casts would be discovered. The quantity of albumin is not the main element, but the stimulation of the nerve centres by certain toxic elements (urea), which produces the attack. It has been stated that women have died of convulsions when but little albumin was found in the urine. It has been held, therefore, that albumin was rather the consequence than the cause of eclampsia. Not every woman who has albuminuria in pregnancy fails a victim to eclampsia. A more rational explanation is that some women are so susceptible to convulsions that a small amount of uremia will precipitate an attack. This may be the explanation why in some cases the kidney is not said to be the cause of the disease. This fact furnishes the proper guide for the induction of premature labor. In one the object may be the safety of the child, in another that of the mother. A large number of children are born dead, it is said, from prolonged uterine spasm. A high authority—Braxton Hicks—however, maintains in a paper in the London Obstet. Transactions that from a large number of examinations made, in numerous cases he never recognized any uterine contractions. Experience does not show that they are longer than normal, hence the conclusion is that if the child be dead of uremia, the poison must be in the blood of the mother. This is further proven by the fact that women in the seventh to eighth month of pregnancy, who have uremia but no convulsions, because they are treated in time for it, are not uncommonly delivered of dead children before labor commences. The speaker called to memory three such cases. The fact that the child is liable to be lost if the mother is not delivered is another question to be considered outside that of convulsions.

2. There is another feature to determine the propriety of inducing labor in the interest of the mother, if the uremic symptoms existed a long time—namely, the danger of amaurosis. The
speaker related the case of a beautiful lady, the wife of a prominent business man of a neighboring town, who had evidence of kidney trouble when six or seven months pregnant, and was put under treatment for the same. Drs. Williams and Ayres examined the eyes of the lady and discovered the changes in the retina which caused the blindness. He remembered another similar case. In such cases, therefore, the question becomes all-important whether labor should be induced or not, in the interest of the mother's eyesight.

Shall we induce labor in a case where premature symptoms exist or where premature labor is already threatened? If the induction of labor itself causes convulsions or aggravates them, and we can prevent them by not allowing labor to come on, we must refrain from inducing labor; if, however, it be desirable to terminate pregnancy, we should, if possible, first endeavor to remove the kidney trouble. No absolute rule can be given; if a woman has uremic symptoms, first endeavor to relieve the renal condition by cathartics, as croton oil, calomel, etc. *Veratrum viride* in full doses, in cases where there is great arterial tension, acts excellently. *Veratrum* pilocarpine, in a few cases the lancet, lower the arterial tension; then there will be time for the use of diuretics. It is always a wise course, if the symptoms are not urgent and the woman not yet in labor, to try to cure her; if the symptoms, however, persist, we may try to induce labor. For this purpose the woman should be put under the profound influence of chloroform until the labor is over, to prevent the recognition of pain. In grave cases we may thus endeavor to save the woman.

Chloroform as an agent to control the convulsions themselves has generally disappointed the speaker. He was satisfied that the repetition of the convulsion itself is a source of great danger to the nervous centres; hence, if anything is to be done, we must lessen the arterial tension.

Dr. G. S. Mitchell said he would emphasize the point just made by the previous speaker, and indorse the employment of *veratrum viride* in eclampsia. Half a drachm, if it does not produce nausea, may be given, and repeated in half an hour, without risk. It acts similarly to venesection by reducing arterial tension, is therefore a vaso-motor depressant by dilating the blood-vessels. In fact the individual is bled into her own blood-vessels. That this is a fact is proven by recent experiments, which have shown that the intestinal vessels may be dilated to an extent sufficient to hold all the blood of the body. It is a remarkable fact that, whilst all cardiac depressants in toxic doses have a tendency to produce convulsions, yet in puerperal eclampsia they relieve them.

The speaker did not believe that all cases of eclampsia were due to kidney trouble. The remote cause was an unstable nervous system, which again was induced by pregnancy. The termination of labor often puts an end to the convulsions, but in a large proportion they do not cease; in one of the speaker's cases they were aggravated afterwards.

Dr. E. B. Hall said he had in all five cases of eclampsia. In four of these the convulsions returned after the birth of the child; in two of these there were afterwards six or seven convulsions, and one of them died. In one case only did the convulsions cease after the birth of the child.
DR. TAYLOR, in concluding the discussion, remarked that he had little to say, because there was really no difference of opinion among the various speakers. He indorsed Dr. Reamy’s statement that, in instances where the kidney trouble continued for weeks without improvement, the induction of labor was justifiable. He was still undecided, however, as regards his second case, where the patient seemed to be in most perfect health up to the time of the first attack.

He would correct, however, one misrepresentation of his previous remarks. He did not intend to convey the idea that if labor had commenced he would interrupt it.

As to the comparison of the frequency of the attacks before and after delivery, he could not give the exact proportion, as he had not looked up this matter recently. According to his own experience, the convulsions ceased after delivery. He did not recall a single case where they continued. It is most important to know what is the cause of eclampsia. Formerly it was believed that Bright’s disease was the universal cause, but this is not true probably in all cases. May it not prove that the recently discovered ptomaines are the cause in cases where no evidence of renal disease has existed?

![A NEW CLAMP FOR VAGINAL EXTRIPATION OF THE UTERUS.](image)

DR. RUFUS B. HALL exhibited forceps for clamping the broad ligaments in vaginal extirpation of the uterus. The forceps here presented have many advantages over the forceps in general use, which are not at all adapted for this operation, especially for clamping the broad ligaments, and those heretofore suggested and employed for this purpose are not perfectly satisfactory. Those of Péan, Richelot, and Doléris are the best, but none of them are the ideal forceps for clamping the broad ligament. They should be so constructed that one large forceps should grasp the entire width of the broad ligament upon either side in such a manner that when they are locked no portion of the tissue can slip beyond the point of the forceps, thus holding it secure against any possibility of slipping. At the same time, they should be so constructed that they are as little as possible in the operator’s way after the first pair has been applied. Such a forceps I think I have devised, made by Max Wocher & Son, of this city. The posterior blade is longer than the anterior, and turns up at the point in such a manner that it would be impossible for any tissue to slip beyond the end of the forceps (on the plan of the Doléris
Obstetrical Society of Cincinnati.

forceps). The blades are thin, but broad enough to give them sufficient strength. The forceps are bent at an angle from back forwards, and there are two side angles, one upon either side of the lock, which give them the desired curves, so that when the first forceps have been applied and the handle given to an assistant, he presses it against the leg of the patient, and it is wholly out of the way of the operator. The lock is similar to the lock of the ordinary obstetric forceps. The forceps, having these angles and the lock spoken of, are easily applied, hold the tissue without slipping, are less in the operator's way, and are the best forceps for clamping the broad ligament that I have seen. There are certain difficulties attending the vaginal extirpation which must be overcome before the mortality from the operation can be reduced to a minimum: 1st. The long time it takes to perform the operation when the ligature is used to secure hemostasis. 2d. The difficulties encountered in passing and securing the ligatures. 3d. The imperfect hemostasis which so often follows the operation when the ligature is employed. The use of the pressure-forceps to secure hemostasis obviates many of these difficulties, and bids fair to entirely supplant all other means of controlling hemorrhage in this operation. Whenever employed, the length of time necessary to perform the operation has been very materially shortened. There has been less hemorrhage and a lower mortality than by any other method. In using the forceps the patient is put in the lithotomy position, and the Jones speculum introduced; the cervix is seized with strong vulsellum forceps and dragged well down; an incision is made with the knife through the vaginal mucous membrane, extending around the cervix; the tissues surrounding that part of the uterus are to be torn away from it by the finger or a blunt instrument, keeping as close to the uterus as the diseased tissue will allow. The tissues are stripped back from the uterus upon either side and in front of the cervix, for a distance measuring about half to three-quarters of an inch above the junction of the vaginal mucous membrane. The structures on the posterior portion of the cervix are now to be divided with scissors, and Douglas' cul-de-sac opened widely enough to admit the index finger; this opening is to be enlarged laterally by tearing until it extends to the broad ligament upon either side. The uterus can now be drawn well down, and the peritoneal cavity is to be opened in front of the cervix by a very narrow opening, which is to be enlarged by the finger, keeping close to the uterus until the wound is enlarged laterally with the finger to the broad ligaments. By the process of tearing the tissue much blood is saved, there is not so much danger of wounding the uterus and bladder, and it can be done almost as rapidly as with the scissors. Up to this stage of the operation the hemorrhage is to be controlled by the use of Tait's or Wells' small pressure-forceps, applied as needed. With the index finger again
introduced into the opening back of the uterus, the posterior blade of the large clamp-forceps is easily adjusted to the left broad ligament and then the anterior one, when they are joined at the lock; and if the ovary and tube can be pulled to the uterine side of the point of the forceps, it will be well to do so; if this cannot be done, they can be clamped off by any forceps. Protecting the intestines from injury by the finger, the forceps are closed and the ligament divided. The uterus can now be dragged outside and the right ligament clamped and divided. The operation is completed by placing a tampon of gauze in the vagina. The small forceps can be removed in twenty-four hours; the large ones on the broad ligaments can be removed in seventy-two hours.

Dr. Wenning regarded Dr. Hall's invention as very clever. Its chief advantage over the ordinary clamp-forceps usually employed to secure the broad ligaments lies in the arrangement of the handles, which are out of the way, and are directed upwards and outwards against the thigh of the patient on either side. There was one point, however, in all forceps with long compressing blades, that the speaker would call attention to—namely, that the strongest pressure is near the crossing of the blades, and the weakest point at the ends, whilst it should be the reverse when the instrument is in situ. The greatest danger from hemorrhage is from the upper branch or ovarian artery, because it is beyond control; the greatest pressure, therefore, ought to be brought to bear at this point, because the mass of tissue compressed between the blades near the intersection causes a weakening of the forceps pressure at the tips. Greig Smith evidently had this in mind when he invented his clamp which locks from above, after the blades have been passed over the broad ligaments. The speaker suggested that if Dr. Hall's handles would be applied to Smith's clamp, the latter would be a still more useful instrument; nevertheless he would give Dr. Hall's instrument a trial at the next opportunity for vaginal extirpation which would present itself.

At the annual election held immediately afterwards, the following were elected for the ensuing year: President, Dr. Geo. E. Jones; Vice-President, Dr. Byron Stanton; Recording Secretary, Dr. Wm. H. Wenning; Corresponding Secretary, Dr. E. S. McKee; Treasurer, Dr. T. P. White.

This is a clear, thorough, and practical work, by far the best that we have seen treating of this vitally important subject. While it is difficult to find noteworthy faults in any of the chapters, we would particularly commend the sections on diagnosis, prognosis, prophylaxis, and treatment. The differential diagnosis from other less serious throat affections which are quite commonly confounded with true diphtheria is very clearly explained, an admirably executed colored plate aiding in making perfectly apparent some of the conditions described in the text. In the concluding hundred pages, the author discusses the general indications and principles of treatment, gives an impartial review of various drugs and methods employed, and describes in detail those procedures and medicinal agents which, in his own large experience, have proved most valuable. The author is not by any means a routinist and believes in treating each case according to its own indications, while at the same time he follows certain well-defined lines of practice.

Dr. O'Dwyer's portion of the book is a detailed description of the indications, technique, and after-treatment of the operation of intubation, and is a valuable addition.

The style of both authors is simple and direct. The work is printed on fine paper with clear, open-faced type, and contains remarkably few typographical errors.

B. H. W.


Each of these monographs is worthy of the most careful study; the first as setting forth the remarkable successes achieved by Tait, and the second as being a thorough and scholarly study of the factors of scientific pathology, diagnosis, and treatment which have made these results possible. Strahan, while amplifying Tait's well-known views, has accepted them almost in their entirety. Both agree as to the difficulty of diagnosis before rupture—"those who know most of the natural history of the affection are the most cautious, and those
who know least the most confident." Both agree that the condition is more frequent than is generally supposed, and that when rupture occurs it is often mistaken for hematocele supposedly from other causes. Tait, however, says: "I have never seen an intra-peritoneal hematocele that was not due to a ruptured tubal pregnancy; and very many cases of extra-peritoneal hematocele have undoubtedly been tubal pregnancies which have ruptured between the peritoneal folds. Primary intra-peritoneal rupture demands immediate laparotomy. Those cases where the rupture takes place between the peritoneal layers of the broad ligament (extra-peritoneal hematocele) demand expectant treatment. Should secondary rupture occur in these cases, immediate laparotomy must be done. Should the fetus continue to grow, expectancy or laparotomy is the only alternative worthy of consideration until the time of the false labor, when the "primary operation," as modified by Tait, is indicated. This is, in most cases, an extra-peritoneal operation in which the placenta is left in situ and the wound totally closed, the object being to prevent suppuration or decomposition of the placenta. It involves several original features and promises well.

Of the two works we would recommend Strahan's essay as being a masterly, if in no sense original, exposition of the most advanced and rational views on this important subject. B. H. W.


We welcome the maiden volume of these transactions, an abstract and certain papers of which have already appeared in our pages (see page 1064 et seq., Oct., 1888, and page 1 et seq., Jan., 1889).

The volume is freely illustrated, beautifully bound, and typographically well gotten up.
ABSTRACTS.

1. Stumpf, M.: Hemorrhagic Diseases in the Lying-in State and during Menstruation (Arch. f. Gyn., XXIV., 1).—The occurrence of hemorrhagic diseases during pregnancy, labor, and menstruation is rarely observed. It is established that females suffer less frequently from the hemorrhagic diathesis than do males. Hemophilia alone is not able to induce the train of symptoms characteristic of the affection; purpura variolosa, hemorrhagic measles, etc., will closely simulate it. In addition to cases gathered by the author, one coming under his own observation and treatment is narrated in detail: Mrs. G., aged 22, passed through childhood without any of the illnesses incident to that period; menstruation began in the twelfth year, lasting eight days and being very profuse, sometimes recurring after the lapse of three weeks. In her twentieth year, while working as cook in a damp dwelling, she became ill with rheumatism, not severe enough, however, to prevent her being about and attending to her duties. She said that since early childhood she was disposed to bleed freely from insignificant wounds or scratches, and asserted that several members of her family were similarly affected—a statement which later on failed of substantiation, except that one brother was subject to frequent nose-bleeds. Patient conceived in October, 1886; in the first three months of pregnancy there was obstinate vomiting, later on dilated veins became visible on both legs, and toward the end urinary tenesmus was complained of. The labor was quick and normal, and the puerperium passed without any unusual symptoms; the discharges were even more sparse than is usual, containing very little blood. Nineteen days after confinement, after she had made an exhausting promenade with her child on her arm, she was suddenly surprised by a profuse bleeding from the genital tract, accompanied by numerous blue-red spots on the skin of the entire body. She at once went to bed, when the hemorrhage slightly diminished; but during the next day the bleeding continued with renewed vigor, and she was brought to the polyclinic. She presented the following characteristics: The mucous membrane of the eyes, nose, and mouth was moderately injected; over the entire skin there were numerous round, bluish-red spots, which did not disappear on pressure, of a size varying from a pin-head to a pea, not projecting above the surface; they were found also on the mucous membrane of the mouth, pharynx, and gums. The heart was not enlarged; at the apex there was heard an inconstant, systolic murmur; the second sound was somewhat accentuated; there were no obstructive murmurs; the lungs were normal. The vagina was broad and long, containing numerous old and recent blood-clots. The vaginal portion was short, very soft, and relaxed; os externum open, cervical canal patulous throughout; at os internum a blood-clot. The body of the uterus was also exceedingly soft and relaxed, was anteverted and sensibly enlarged; ovaries not enlarged; she was somewhat weak, fainting on attempting to sit up in bed; appetite was good; there was violent brow headache. The pulse was moderately strong, 100; temperature 37.6°; urine pale, otherwise normal. She was kept in the horizontal position; the rectum was daily washed out by enemas; the diet
was nourishing, including wine and lemonade; in addition a tablespoonful of the infusion of ergot, 10 in 150, was given, together with hot vaginal irrigations. In spite of these measures there was no improvement; on the contrary, a very copious naso-pharyngeal hemorrhage took place on the third day. The purpuric spots did not remain stationary, but were renewed from time to time. The uterus remained relaxed and soft, and at the end of a week decided anemia was present. Concentrated liquor ferri perchloridi was applied to the inner uterine wall on cotton wrapped around a sound; immediate relief followed. On the next day the vagina and uterus were more firm and contracted, the purpuric spots gradually disappeared, and on the fifth day after the application the patient was discharged. As a result of the observations of this and other authors, the following may be stated with regard to the influence of hemophilia upon menstruation: 1. The catamenia begin in general at an early age. 2. They are usually very profuse and of long duration, continuing sometimes during pregnancy. Dangerous and even fatal hemorrhage has been observed. 3. Hemorrhage from other organs is observed, principally from the mucous membrane of the nose and throat, the gums, from hemorrhoidal protuberances, and from the skin; hemorrhage also takes place under the skin in the form of ecchymoses, or hematomae form and rupture, leading to profuse bleeding.

L. B.

2. Skutsch, Felix: Further Contribution to the Subject of Conservative Cesarean Section (Arch. f. Gyn., XXIV., 1).—Two cases are given, the second one being especially interesting from the fact that it was the second operation on the same individual, and that this time the uterus contained twins. In the first case, the woman showed a history of rickets and a previous prolonged and dangerous labor, only relieved by perforation and the use of the cranioclast. She had a generally contracted, inclined pelvis. The incision in the linea alba was about twenty centimetres long, reaching eleven centimetres above the umbilicus, and was made with one stroke through the entire thickness of the abdominal wall, opening into the peritoneum in one place; the latter opening was enlarged on a tunnelled sound to correspond to that of the abdominal wall, and temporarily sutured on both sides to the latter. The wound had to be enlarged four centimetres at the upper angle to enable the uterus to be brought forward; the uterus was opened exactly in the median line by an incision sixteen centimetres long; the membranes were torn through and the child withdrawn. The procedure, from the beginning of the abdominal incision up to the birth of the child, occupied four and one-half minutes. The intestines and mesentery were held back by a large sponge, and the abdominal wound held together by Museaux forceps; the uterus was relaxed and bled pretty freely; after the placenta and membranes had been separated, its cavity was washed out with a 1:5000 solution of the bichloride, and ergotin was given hypodermically; the uterine wound was united by seven deep musculo-serous sutures of twilled silk, each strand having two needles attached. Bleeding was profuse; seven more sutures were inserted, about half as deeply as the first, in various gaping places in the wound; in addition, the serous membrane was perfectly copptated by fine sutures of silk: no bleeding took place now; the uterus, now well contracted, was replaced. The abdominal cavity was free of blood or fluid from the sac, and was not cleansed; after removal of the two provisional peritoneal sutures, the abdominal wound was united by nine
Abstracts.

667

deep stitches, which included the peritoneum, and fifteen superficial ones. The child survived; it weighed at birth 4,070 gm.

The second patient had a flattened, rachitic pelvis, the true conjugate measuring but 6.2 cm. On section the anterior uterine wall was found united to the abdomen by adhesions, very firm and vascular; the mesentery was also united to the uterus and had to be severed and tied in six places; adhesions between the uterus and the bladder were also found and severed. All this required twenty-four minutes. The five silver sutures remaining from the previous operation were much distorted, but easily removed. The rest of the operation was practically similar to the first; the time occupied from the beginning to the birth of the two children was twenty-nine minutes; the whole operation lasted seventy-eight minutes.

The first operation was favored by the condition of the patient, the activity of the pains, and the degree of dilatation of the cervix. In the second, the operation could not be deferred, because of increasing edema and albuminuria, which threatened eclampsia, and had to be performed with weak pains and beginning dilatation. S. considers the bringing forward of the uterus into the abdominal wound as feasible where practicable; this was not done in the second case, because of the adhesions to intestines. Hemorrhage can be guarded against by applying a rubber ligature around the cervix, which can be tightened at a moment's warning, especially if the incision should be over the site of the placenta. The second case developed violent meteorism, which had also followed the first operation, but ultimately made a good recovery; the recovery of the first case was uninterrupted.

L. R.

3. Nagel, W.: Version in Contracted Pelvis (Arch. f. Gyn., XXIV., I).—An exhaustive résumé of the literature of this much-discussed subject, with comments, is offered by the writer, together with fifty-nine cases observed by various gentlemen at the Charité clinic and polyclinic in Berlin. N. does not classify contracted pelves into various forms, believing, with Litzman and Zweifel, that the three varieties require the same therapeutic management. He discountenances the use of the long forceps, and declares that version offers a chance for the preservation of infantile life which is otherwise doomed, while securing to the mother the advantages of speedy delivery, even should the effort to preserve the child's life fail. Version should not be delayed too long; the full dilatation of the os after the membranes have ruptured takes place too slowly in the presence of imminent peril, and should version not be attempted until its accomplishment is assured, the effort will be useless; procrastination means destruction to the mother, and particularly to the child; the protracted labor more than the narrowed pelvis per se clouds the prospect for mother and child. Delay in most cases means final resort to perforation. In the decision as to whether the accoucheur shall wait or perform version, the following factors are to be recognized: 1, The pelvic measurements; 2, In primispare, the failure of the head to engage; 3, In addition to the former, in multiparae the course of previous labors; 4, The activity of the pains. Premature rupture of the membranes is necessarily a serious mishap, and should be guarded against as far as possible. The degree of dilatation at the time of turning is of prime import in the prognosis, inasmuch as it will determine a speedy or tardy extraction; but version is no more dangerous to the mother with a partially than with a totally dilated os, and should therefore not be postponed when once indicated. It is better, however, to defer extraction until the parts have been more thoroughly pre-
pared. Where the os is not sufficiently open to permit internal version, the combined method of Braxton Hicks must be adopted. The latter is usually easily performed immediately after rupture of the membranes; in cases where the amniotic fluid has long since passed away, it cannot be utilized, but, as such cases usually occur in multipare, it will generally be possible, by the gradual introduction of two, three, or more fingers and the consequent dilatation of the os, to perform internal version. As a sine qua non to the successful outcome of version, it must be established that no other attempts at delivery antecede it. Forceps and version cannot be made to harmonize. The various opinions held with regard to the mechanism of the after-coming head and its proper treatment are discussed in detail. The author favors the Moricean-Weit procedure.

4. Kleinwaechter. L.: A Contribution to Vaginal Cysts (Zeitsch. f. Geburth. u. Gynäk., XVI., 1).—The author regrets that of the one hundred and seventy-six cases of vaginal cysts so far reported, but twenty-eight were subjected to accurate microscopical criticism, and gives the histories of nine cases of his own observed in the past four years, in only a few of which, however, he was enabled to obtain the much-desired microscopical examination. In the first case, in which the whole cyst was successfully extirpated, the microscope disclosed a rather broad stratum of horny-like epithelium in the uppermost and external free layer of the tumor; beneath this was a layer of tessellated epithelium about three or four times as broad as the first layer; numerous small depressions, resembling glandular tubules in cross-section, were found, some of which contained nuclei. In no place were glandular tubules seen which ran to the periphery or which opened externally. Below the epithelial layer, a layer of connective tissue of varying breadth was found containing numerous and often large blood-vessels; circular and longitudinal muscular fibres accompanied the connective tissue; beneath the layer of muscular tissue was a zone of connective tissue, rich in cells, which, with its epithelial lining, formed the innermost layer of the cyst-wall. That part of the cyst-wall lying against the vaginal wall consisted in greater part of muscular tissue. In the second case the cyst presented a similar appearance. The third cyst was filled with pus, and was found to be a supernumerary and rather well-developed vagina. In the fourth case, neither muscular tissue nor glandular depressions were present. The fifth, sixth, seventh, and eighth cases were not operated upon. The ninth case showed numerous small cysts on the vaginal portion, some filled with gas, others with a yellowish, cheesy material; they disappeared after parturition. In still another case reported by K, the tumor was situated in the middle third of the border of the right nympha, hanging by a narrow membranous pedicle. It was not removed. K. thought that the small tumors on the portio vaginalis in the ninth case were lymph follicles in a state of suppurrative inflammation. The first case was, he thought, one of adenoid degeneration of the cyst-wall, stating that adenoid formation can take place in the vagina, a fact not hitherto known. Vaginal cysts should be separated into two general groups—one, in which the process is coeval with embryonic existence; the other, in which the cysts result from pathological processes unconnected with the embryonic state. The first case also showed that lateral prolapse of the vagina is possible; none of the cases in which there were vaginal prolapse were complicated by either prolapse of the uterus or cervical hypertrophy. The author thought that, in all but the excessively larger growths, extirpation was preferable to excision.
of the anterior wall. He operated in one case during menstruation without detriment to the wound.

5. Doederlein and Gunther: The Disinfection of the Parturient Canal (Arch. f. Gyn., XXIV., 1).—D.'s researches showed him that, in the greater proportion of puerperal cases with heightened temperature, microorganisms were present in the secretions of the vagina and cervix. He instituted various methods for the prevention of this occurrence; prophylaxis comprised the disinfection of the attendant, the instruments, and the patient. It was first attempted to remove the germs by mechanical means: the vagina was cleansed by the finger of the attendant—the member being previously immersed in sterilized water; the latter was then used as an irrigating fluid to complete the toilet; there were no changes either in the number or character of the germs observed after employing this procedure. It was then thought that vaseline, previously rubbed on the finger, would enable the latter to penetrate more thoroughly the recesses and folds of the vagina: the result proved negative. Bichloride solution, 1 in 2,000, was next resorted to. It did not completely remove the germs, or did so transiently; it was thought that re-infection took place from the cervical mucous plug, which could not be entirely removed. Creolin in one-per-cent solution was next tried; the finger was again used first, followed by copious irrigation. It was found to free the parts of bacterial matter, and possessed the advantage that its use left the vagina in a smooth and supple condition. By the addition of mollin, which with the creolin formed a detergent emulsion, the mucous plug hanging from the cervix could be entirely removed. The results of the experiments are summed up thus: 1. Irrigation with solutions of corrosive sublimate or of carbolic acid did not thoroughly disinfect, used in the strength commensurate with safety. 2. The coating of the mucous membrane of the vagina with vaseline antagonized the action of the disinfectants. 3. Disinfection by rubbing the parts with solutions of the bichloride or of carbolic acid rendered the mucous membrane dry and brittle. 4. Instead of the vaseline, mollin, in conjunction with creolin, is to be recommended. 5. By rubbing and irrigating with two-per-cent solutions of creolin, the vagina could be freed of germs; the drug possessed none of the disadvantages of the bichloride or of carbolic acid.

6. Doran, A.: Large Ovarian Tumors in a Seven-Months Child (Trans. Path. Soc. of London, Oct. 16th, 1888).—The tumors were removed after death from an infant which survived its birth but a few minutes. Mr. C. Hooper, of Aylesbury, who attended the case, reported that the infant's abdomen was distended with ascitic fluid and the superficial veins were engorged, as in malignant tumors of the ovary in the adult. Each tumor looked like a cystic kidney when fresh, and consisted of a single cystic cavity surrounded by a thin wall composed of a highly reticulated tissue. The trabecule which traversed this tissue in all directions were composed of collections of round cells in a transparent matrix, an arrangement recalling the structure of the interfollicular tissue of the ovary in an earlier stage of fetal life than that which this patient had attained. The growth appeared to represent persistence and hyperplasia of the entire embryonic tissue of the parenchyma of the ovary rather than round-celled sarcoma, which, even when congenital, was in every respect of a different character, as proved by a recent case described by Dr. John Phillips. Graafian follicles were found
in the substance of the tumor, which therefore originated in the ovarian parenchyma and not in the hilum, but the tumor was clearly of extra-follicular origin. The cavities and the large central cyst appeared to be the result of breaking down of the tumor substance; they bore no epithelial lining. The tumors thus bore no resemblance to the common multinocular ovarian cyst. The larger of the pair had been presented by Mr. Thornton to the Museum of the College of Surgeons.

7. Rossier, G.: Clinical and Histological Researches in Placental Infarctions (Arch. f. Gynäk., XXXIII.,3).—In 1885, Fehling called attention to the connection between renal disease in the mother and habitual death of the fetus and placental disease since which further cases belonging in this category have been described; the author contributes ten such, five of which were examined by him microscopically. A. Rouland investigated the placentae with regard to “hemorrhagic lesions” of accompanying renal disease in the mother: of 68 nephritic pregnant women, these lesions were found in 28 cases; among these, 11 of the children were still-born; 26 of the women were primipara; in 11 cases of eclampsia, there were placental lesions in 8. R. considered the primiparous condition and eclampsia as predisposing causes for placental apoplexia. Premature labor occurred in 50 per cent of the cases with albuminuria, with placental lesions; in but 25 per cent of the cases without lesions. Medow described five cases of infarction with renal disease; Cohn described 15 cases, in five of which chronic nephritis was present. The first five cases described by the author were Fehling’s; they were not examined microscopically; all showed presence of albumin and casts in urine, and had had previous abortions; in two, characteristic infarcts were discovered. The other five were microscopically tested by the author. Infarctions were found in all, notwithstanding that in two cases albuminuria was slight and transient. There is still an unexplained frequency of infarctions in the placenta of women otherwise healthy. The nature of infarctions has received diverse explanations, as follows: As the products of inflammation; due to hemorrhage into the placental tissue; to both hemorrhage and inflammation; due to fibrinous degeneration of the tufts; to an accumulation of the normal canalled fibrin found there; to new formation of connective tissue, or periarteritis diffusa; to coagulation necrosis. R.’s investigations included seventeen placentae, with forty infarcts; four of these were from women in whom a transient albuminuria were noted, three in which nephritis was pronounced. Thirteen infarcts consisted mainly of closely connected tufts containing little blood; the intervillous spaces were compressed into narrow columns containing some fibrin; the vessels were generally distinct; the cells in the villous stroma were in part unaltered and in normal quantity, in part more sparse and even entirely absent; the villous epithelium was in some places greatly changed; the infarcts themselves were traversed either by normal villous tissue or by decidual strands. In the adjacent decidua, vessels provided with endothelium were occasionally found, containing blood-vessels and fibrin; twice comparatively large fibrinous masses were seen, lying free in the decidual tissue and surrounded by round decidual cells, endothelium being nowhere visible. Once blood was found, lying free in the tissue; the decidua in this situation was found choked with red blood-globules, their borders torn, so that groups of decidual cells were surrounded by blood. In six infarcts spaces were found, partly filled with blood and fibrin, lying between closely apposed villi; the vascular lumina and stroma cells were in
Abstracts.

671

a state of hyaline degeneration. In nine cases the infarcts consisted of a thick, laminated layer of fibrin, in some places resembling canalled fibrin; it contained yellow-red pigments and white blood globules. Surrounding the infarcts were normal or contracted villi.

L. R.

8. Krugenberg, G.: On the Permeability of the Fetal Membranes (Arch. f. Gynäk., XXXIII., 9).—This is in the nature of an answer to the investigations of Dürssen, published last spring, as a result of which the latter declared positively against the permeability of the fetal membranes. K. had previously shown that at the end of pregnancy iodide of potash given to the mother was found later on in the amniotic fluids. Dürssen's experiments were made with benzoic acid; he explains the presence of the iodide in the amniotic fluid by an exaggerated action of the fetal kidneys, which were capable, accordingly, of eliminating the drug within one and one-half hours. The latter presupposes remarkable activity on the part of the kidneys, and clashes with the author's discovery, which Dürssen has overlooked, that at the end of gestation in bitches and cats no iodide reaction was obtainable in either the urine of the fetus or in the amniotic fluid, but was present in the fetal gastric fluid. In these cases the iodide cannot be regarded as producing diuresis, rather as suppressing it. The iodide will be found in the blood of a rabbit killed one and one-half hours after the exhibition of a dose of the drug, proving that at this time its transfer to the kidneys and excretion therefrom could not yet have been completed. Dürssen attributed a peculiar capacity to the fetus, by which it could prevent the entrance of substance from the maternal blood. K. declares this hypothesis impossible; substances imbibed by the maternal blood are transuded, at the end of pregnancy, through the membranes into the amniotic fluid. It is a question whether, in the human subject, either the permeability or non-permeability of the fetal membranes can be demonstrated. The author claims that his experiments with the iodide prove his point; we have no data regarding the action of this drug substantiating Dürssen's theory of exaggerated diuresis excited by it in the fetal kidneys. The absence of benzoic acid in the amniotic fluid in Dürssen's experiment is no proof that the membranes cannot transude substances from the maternal circulation; the detection of the acid is difficult, and its presence not capable of accurate demonstration.

L. R.

9. Muenchmeyer, F.: Premature Expulsion of the Placenta, with Normal Situation of the Organ (Arch. f. Gynäk., XXXIII., 3).—The placenta may be expelled before the child when it occupies a normal situation or when it is the presenting part; the former occurrence is very rare, the latter a little less so. Some have observed the accident only in abortions, and Hohl contends that it cannot occur under other circumstances; others have noted that it occurs when the site of the placenta is normal, and more often with the second child in twin labors. It occurs the most frequently in multipara; it is comparatively harmless to the mother, but of the gravest prognosis for the child. Two cases of the author are presented in detail: The first one was a woman twenty-seven years of age, who learned to walk in her third year and began to menstruate in her twentieth year, and was small in stature. Pregnancy normal; no hemorrhage; had a flat, rachitic, generally contracted pelvis; urine contained one-eighth volume albumin; edema of legs. Labor progressed slowly; repeated examinations failed to detect any
trace of placental tissue; the fetal heart-sounds, which previously had been distinct, became muffled and finally disappeared. With moderate pains, and without the appearance of a drop of blood or evidence of internal hemorrhage, the placenta was suddenly presented at the vulva; the woman was anesthetized and the placenta removed; it was intact together with the membranes, and not a drop of blood visible. The child, which was a large one, was removed by partial decapitation and perforation. The patient got up a right-side parametritis, but ultimately made a good recovery. The second case was thirty-four years old, unmarried; began to menstruate in her eighteenth year. Had had two previous labors; was well built and healthy; child's head freely movable at pelvic inlet. Suspicions of twin pregnancy were aroused by the fact that fetal heart-sounds could be heard on both sides, and this was subsequently confirmed. No trace of placental tissue; no bleeding; the labor was tedious, culminating finally in the birth of a vigorous female. The cord was very short and had to be cut close to the vulva. It was then discovered that the uterus contained another child, head presenting, back to the left, heart-sounds not heard; on examination, the hand came in contact with the placenta, which filled the vagina, the head of the child being felt behind. It was supposed that the after-birth belonged to the first child. The birth of the child was expedited by the method of Kristeller; the placenta appeared first, followed by the child. It was then seen that the prolapsed placenta belonged to the second child; the latter was dead. The placenta of the first child was expressed by means of Crede's method. It must be remarked that neither during nor succeeding the labor with either the first or the second child was there any hemorrhage, nor was the bleeding with the expulsion of the last placenta any greater than is usual; rather less. Both placentae together weighed 870 gm.; they were pronounced types of placenta marginata. The rent in the membranes was lateral. Good recovery followed. While the prognosis for the mother in such cases is favorable, it is not to be measured by the sparsity of the hemorrhage; the expulsion of the placentæ with the whole membranes before the birth of the child robs the inner surface of the uterus of its natural protector, and admits the possibility of infection, particularly by intra-uterine manipulation, as in the first case. The cessation of fetal heart-sounds in cases otherwise presenting no symptoms of this accident may be utilized in differential diagnosis.

L. R.

10. Kleinwaechter, L.: What is the Condition of the Genital Tract in Basedow's Disease? (Zeitsch. f. Geburtsh. u. Gynäk., XVI., 1).—After citing various writers who have investigated the subject, K. calls attention to the fact that, while the literature mentions numerous coincident anomalies of sexual function, the changes which take place in the genitalia have so far not been described. He narrates the history of one of his cases in which the disease attacked a previously robust, healthy young married woman, and was accompanied by atrophic changes in the uterus, vagina, and vulva, with total disappearance of the formerly well-developed mammae and denudation of the hairy portions of the skin; he thinks the changes induced by Basedow's disease are similar to the atrophic changes accompanying advanced years. L.R.
MY EXPERIENCE WITH THE FLAP-SPLITTING OPERATION FOR LACERATED PERINEUM.

BY

PAUL F. MUNDE.

(With one colored plate and two woodcuts.)

Since the revival by Lawson Tait, several years ago, of the flap-splitting operation for lacerated perineum, a number of descriptions of the operation have been published by Sänger, Zweifel, Rokitansky, Martin, and others, mostly Germans, and the results reported by these operators have excited much interest and attention. In spite of the diagrammatic illustrations which accompanied most of these articles, the technique and principle of the operation seem to have been but imperfectly understood—a fact which appears almost incomprehensible to any one who has ever seen the operation or performed it himself, and is familiar with the extreme simplicity of its detail. That such is nevertheless the case has been demonstrated to me by the frequent requests I receive, even from gynecologists, to be allowed to see me perform the operation. In order to assist in making the description more intelligible, I have had the accompanying colored plates drawn from nature by Dr. H. Macdonald, of this city.
My first knowledge of this operation was gained when I saw Mr. Lawson Tait do it in his private hospital at Birmingham on July 24th, 1886. No special explanation was given at the time by Mr. Tait of the technique of the operation. He did it very rapidly, probably occupying not more than five or six minutes in all. Still, I was able to get a very good idea of the method, as will be seen from the description I gave of it in the report of my trip to Europe, published in the September, 1886, number of the American Journal of Obstetrics, p. 926. For ease and rapidity of execution this operation certainly left nothing to be desired. Whether the result would be equally satisfactory was another matter; and, as I had no opportunity to ascertain it in the case mentioned, I hesitated to employ the method, being fairly well satisfied with my success in perineorrhaphy, until about a year later, when an article by Sänger¹ again called my attention to it and induced me to give it a trial. A difficult case of complete laceration in a stout woman soon presented itself (Oct. 19th, 1887), and the operation was so perfectly successful that I have since employed it exclusively in every case of complete laceration and of uncomplicated incomplete laceration which has come under my observation. I find this number to be seventeen, of which eight were complete and nine incomplete lacerations. In sixteen cases a perfect cure was achieved, the function of the sphincter ani being perfectly restored in all the complete cases. In one case (my second operation, Dec. 28th, 1887) of the latter variety I regret to have met with a failure, and, what is worse, a failure of the most disastrous kind, for the patient died of septicemia. This should never have occurred, and, I trust, never will happen again, for it was due to an unfortunate complication of circumstances. The patient was excessively nervous and violently resisted the anesthetic. I divided the recto-vaginal septum rather deeply, in order to insure a sufficiently large wound, the edges of which I thought I had carefully approximated with deep wire sutures, copious irrigation with a 1 : 5,000 sublimate solution being carried on during the whole operation. On the day after the operation the patient had a slight elevation of temperature and was very restless. This was attributed to her nervous condition and to reaction from the struggle of the operation. On the next day I was taken sick with a severe attack of tonsillitis and was un-

able to leave the house for four days, during which time I sent to the hospital to inquire after the patient. The report was that she was doing well, although she had some slight elevation of temperature. As soon as I was able to go out—that is, six days after the operation—I visited the hospital and at once recognized that the patient was intensely septic. I immediately removed all the sutures, found a large, gaping, sloughing cavity, and irrigated it thoroughly with sublimate solution. This was continued most faithfully, but the woman was too much infected and died on the twelfth day.

The house surgeon was too conscientious to interfere with the sutures, not wishing to prevent the expected primary union. He should have removed the sutures as soon as signs of septicemia appeared. But I do not blame him, as he expected no more than I that septic infection would occur after a simple perineorrhaphy. I fear that, in this case, I made too deep an incision, and that some of the sutures tore out in the brittle tissue and left a sloughing, septic cavity. I wish to warn against making the incisions too deep, for fear of such an accident. It is the first and only case in my experience where a patient has had septic infection after perineorrhaphy, no matter what method was employed.

The modus operandi as at present practised by me is the following:

The patient has been prepared by having her bowels thoroughly moved by laxatives (comp. licorice powder or the sulphur, sulphate of magnesia, and bitartrate of potash, equal parts, mixture, one tablespoonful in a glass of water on the second but one and on the morning of the day preceding the operation), no laxative being given the evening before the operation for fear of diarrhea during the operation; and an enema of warm water is administered during the forenoon of the day of operation. The diet has been fluid for at least two days before the operation. The labia are shaved. The patient is placed in the lithotomy position, the legs are evenly held by an assistant or nurse on each side, and the labia carefully and evenly separated by the fingers of each assistant.

For Incomplete Laceration.—The centre of the cicatrix in the recto-vaginal septum is seized and put on a stretch by a tenaculum, held by the left hand of the operator, who inserts a sharp-pointed straight scissors immediately below the tenacu-
Now and again you will see, at one time or another, a friable macula, some one member of the right eye, which is painful, and for this reason, often, to a person. This may be due to some other cause, but the trouble does not seem to be in the eye itself. The trouble, however, may be due, as before said, to the absence of the vitreous humor, which is the main support of the eye. The vitreous humor should be studied, and our interest in it increased.

Diagram 1: Diagram showing the structure of the eye and the position of the vitreous humor.

Diagram 2: Diagram showing the structure of the eye and the position of the vitreous humor.
FLAP-SPLITTING OPERATION
FOR COMPLETE PERINEAL LACERATION - MUNDÉ.
needle into the skin about one-eighth of an inch from the left border of the wound, carries it rapidly but carefully, so as not to emerge on the surface of the wound, across the recto-vaginal septum, and pierces the skin at a corresponding point of the opposite side. A stout strand of silkworm gut, properly asepticized, is then passed through the eye of the needle and both are withdrawn. The ends of the suture are secured by artery forceps to prevent their being accidentally withdrawn. Suture after suture is then introduced, seldom more than three or four being needed. The wound has been kept under a stream of 1:5,000 sublimate solution, which is continued until the last suture is knotted. The sutures are tied in the same order as inserted, from the sphincter ani upward toward the vagina. The edges of the skin are coaptated as thoroughly as possible, but usually a few superficial catgut sutures are required, and this is especially the case with the margin of the vaginal mucous membrane and the posterior commissure, which usually need stitching together with catgut.

For Complete Laceration.—The principle of this operation is the same as that just described, the only addition being two lateral incisions downward from the angles formed by the junction of the transverse slit and the lateral upward slits. (See e, b, c, f, Fig. 2). These two lateral slits extend down to and just outside the easily recognizable borders of the torn and separated sphincter ani. The line for the transverse slit is very distinctly marked by the fine cicatrix separating the vaginal and rectal mucous membranes. When the flaps are separated by tenacula and fingers, as above described for incomplete laceration, the gaping anal orifice and bright-red rectal mucosa are hidden, and the lower border of the wound, instead of being convex, as seen in Fig. 2 and in the plate, becomes a straight transverse line, just as in the operation for incomplete laceration. The sutures are inserted in precisely the same manner, care being taken, however, to let the two first sutures include the ends of the sphincter ani without fail. It is wonderful how neatly, accurately, and rapidly this large quadrilateral wound can be closed and changed to a linear median slit by simply tying the transverse sutures. From four to six silkworm gut stitches are usually required for a complete laceration, according to the normal length of the perineum in each case.

The time usually occupied for the whole operation should
not exceed fifteen minutes; in one case of complete laceration, according to one of my spectators, I required but eleven minutes. In another case, however, of a very stout lady, who had been twice operated upon unsuccessfully by other methods and other operators, there were so many spurting arteries which required ligation, and the introduction of the sutures through the thick fat and old cicatricial tissue was so difficult, that nearly forty minutes were consumed before the last catgut stitch was inserted. She made an excellent recovery, with perfect retention.

I have made several slight changes in the technique of the operation since I first performed it:

1. Point of Insertion of Sutures.—Tait directs them to be entered just within the margin of the skin, so as to avoid the pain caused by their pressure on the cutaneous nerves. I did so the first and second times, but found that the brittle tissue was so liable to tear that perfect coaptation of the skin borders was impossible, and numerous, even deep, catgut sutures were needed to secure a fairly smooth line of union. Since then I have inserted them just within the skin, and have found the pain slight and the union excellent.

2. Material of Sutures.—Following Sängcr, I first used silver wire; but I soon returned to the silkworm gut used by Tait in very thick perineum and incomplete lacerations, sometimes putting two-strands together for greater security against breaking and cutting.

The after-treatment is very simple. The patient passes her urine, if able; if not, it is carefully drawn by sight, the vestibule being first cleansed with cotton dipped in a weak sublimate solution. If micturition is voluntary, the vulva is syringed off with a weak sublimate solution, and twice daily a two-per-cent carbolized, warm vaginal douche is carefully given.

The diet is light and fluid, and the bowels are moved by compound licorice powder, or the sulphur mixture already described, or by repeated drachm doses of sulphate of magnesia in hot water on the third day, and certainly every other day thereafter. This applies to the complete as well as incomplete cases. Enemas are used only if the feces are hard, and then very carefully by an experienced nurse. Proper attention to the bowels and light diet for several days before the operation should prevent any trouble with this most important function.
after the operation. The stitches are removed between the seventh and tenth days, or sooner if found to be cutting or irritating.

A thin layer of iodoform gauze is kept over the vulva, and changed as often as soiled, from the operation until the wound is healed. The patient is allowed to sit up on about the fourteenth day, and can usually be discharged by the end of the third week.

The advantages of this method of perineorrhaphy unquestionably are: 1, Celerity; 2, Simplicity; 3, Success, which latter advantage applies most forcibly to cases of complete laceration, where the old methods so often fail; 4, Preservation of tissue, none whatever being removed, and hence, in case of failure, the condition is no worse than before.

The principle being simply that of splitting the recto-vaginal septum transversely without removing any tissue, and then bringing the lateral borders of the wound together in the median line without puncturing either the vaginal or the rectal mucous membrane with sutures, the formation of that troublesome cause of failure after the old methods—a recto-vaginal fistula—is much less likely to occur; and sphincter ani and posterior commissure once firmly healed, any slight superficial defect readily closes by granulation.

A. Martin, who has recently written a short paper on his experience with this operation, uses the continuous suture of juniper prepared catgut, applying it in layers from the bottom of the wound upward.

This operation is only applicable to uncomplicated lacerations of the perineum. It might be performed after the vagina has been narrowed by one of the numerous methods; but in all cases of rectocele with lacerated perineum I prefer the, in my hands, almost always successful method of Hegar, the description of which can be found in my "Minor Surgical Gynecology," p. 532, 2d ed., 1885.

One word in conclusion about the name and origin of this operation. It has become popularly known as "Tait's operation for lacerated perineum," because undoubtedly he first revived and described it in recent years; but he himself attributes it to a countryman of his, Collis. According to Sänger, Voss, of Stockholm, is the originator of it. Wilms,

of Berlin, described a similar method. Martin calls it the "flap-
perineum operation," which does not sound euphonious, but
certainly expresses its principle and is correct.

A YEAR'S RECORD OF SEVENTY-FIVE SUCCESSFUL CASES
OF ABDOMINAL SECTION.

BY
B. CURTIS MILLER, M.D.,
Charleston, W. Va.

During the year ending September 30th, 1888, I made sev-
enty-five abdominal sections, and I am very happy to be able
to state that in this list I have no fatal cases to tabulate. The
cases can be classified as follows:

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salpingo-oophorectomy</td>
<td>42</td>
</tr>
<tr>
<td>Ovariectomy</td>
<td>9</td>
</tr>
<tr>
<td>Pelvic abscess</td>
<td>8</td>
</tr>
<tr>
<td>Miscellaneous sections</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>75</strong></td>
</tr>
</tbody>
</table>

Deaths, none.

OOPHORECTOMY.

**Case I.**—Miss G. J., age 30 years. For five years this lady
had complained of pain in region of ovaries. During the men-
strual period, which included eight days, the pain was often
intense in character. She had become so much debilitated that
for some weeks previous to operation she was confined to her bed.
Operation November 5th, 1887, assisted by Dr. F. S. Thomas.
Both ovaries were bound by adhesions and contained large quan-
ties of pus. Tubes were distended by dark, grumous fluid.
Adhesions detached and ovaries removed.

**Case II.**—Mrs. M. D., married ten years; age 39 years.
Aborted two years after marriage, and states she was never well
after this accident. Menses always lasted eight or nine days,
and were so profuse that she was compelled to remain in bed for
a week at least, after their cessation, to recuperate from the
resulting exhaustion. Operation November 7th, 1887, assisted

I desire to state that I made abdominal section in 18 cases, previous to the
75 reported, without a death. Since October 1st, 1888, I have operated
upon 51 cases, losing none, making a total number of 144 successful cases
of laparatomy.
by Drs. Thomas and Zerkle. Found both tubes occluded and adherent. Ovaries cystic.

Case III.—Mrs. C. H., age 24 years; married four years. Contracted gonorrhea from husband shortly after marriage, which resulted in a violent attack of salpingitis, from the effects of which she had continued to suffer. Operation November 11th, 1887. Ovarian cysts filled with pus, closely adherent, and removed with great difficulty.

Case IV.—Miss A. B., age 20 years. Menstruation commenced at fifteen years. At her third menstrual period caught a severe cold, since which time she has suffered pain in region of ovaries, and for past five years confined to her bed. Operation November 14th, 1887. Ovaries enlarged, closely adherent in the cul-de-sac, each by fibrous bands, and both together contained about two ounces of pus. This case will illustrate the prolific source of disease among women resulting from imprudence during menstruation.

Case V.—Mrs. M. E. B., age 23 years; married at eighteen years. Passed through difficult labor one year after marriage. Had puerperal fever, and has been in poor health since. During her subsequent menstrual periods she would suffer from eight to ten days, have convulsions, and become perfectly unconscious for a part of that time. Operation November 15th, 1887, assisted by Drs. Thomas and Staunton. Ovaries cystic, with a small amount of pus. Tubes occluded and distended by dark fluid. No adhesions.

Case VI.—Mrs. Jane R., age 26 years; married three years. Never pregnant. Suffered pain in region of ovaries for five years, which has increased last two years. Has had lately symptoms of local peritonitis. Uterus retroverted and bound by adhesions. Operation November 18th, 1887. Ovaries enlarged and contained pus. Tubes occluded by serum.

Case VII.—Mrs. E. H., age 34 years; married eleven years. Has had four children, the youngest of whom is three years old. During past two years she has suffered intensely from dysmenorrhea; general health greatly impaired, and the best part of her time spent in bed. Operation December 10th, 1887. Small fibroid on uterus. Ovaries and tubes fused together in cul-de-sac. Experienced considerable difficulty in the removal of left ovary and tube, due to the extensive suppuration present. Right ovary and tube contained blood and serum.

Case VIII.—Mrs. R. V., age 23 years; married three years. During past two years suffered from pelvic pain and tenderness, which always became very severe during first day of menstrual flow. Operation December 16th, 1887. Double pyo-salpinx. Both tubes greatly distended ("cysts from retention"). Rupture occurred during the effort of removal, as they were closely adherent. Suppurative inflammation present in ovaries.
CASE IX.—Mrs. C. A. M., age 28 years. Married seven years; three children, youngest two years old. Trouble dates from last confinement. Suffered intense pain at every menstrual period since. Operation December 26th, 1887, assisted by Dr. Thomas. Left ovary and tube contained about two ounces of pus. Appendages bound by adhesions.

CASE X.—Mrs. C. B. C., age 32; three children. Has been an invalid since birth of last child, four years ago. Profuse leucorrhea; violent pain at each menstrual period. Operation January 7th, 1888, assisted by Drs. Chilton, Clarke, and Zerkle. Double pyo-salpinx. Tubes occluded, slightly distended, but firmly adherent. Ovaries contained small quantity of pus. Removal attended with considerable difficulty.

CASE XI.—Mrs. R. C. D., age 29 years; four children. Since birth of last child, seven years ago, has been unable to attend ordinary domestic duties. Menstrual periods attended with severe pains; quantity profuse, and lasting usually eight days. Operation January 10th, 1888, assisted by Dr. Thomas. Double pyo-salpinx with adhesions.

CASE XII.—Mrs. C., age 33 years. Mother of one child, now twelve years of age. This lady weighed two hundred pounds. General health seemed perfectly good. At her menstrual period suffered intense pain, which commenced several days before the flow, and continued during the entire period of several days, and often a week. Anodynes had been freely employed to secure rest. Ovaries removed February 17th, 1888. Rapid recovery, and no pain since the operation.

CASE XIII.—Mrs. S. F. G., age 28 years. Mother of four children, youngest nineteen months. Has always suffered at menstrual periods. Since birth of last child, general health has been very poor, and her suffering from pain in the region of the ovaries often very great. Operation March 21st, 1888, assisted by Drs. Henry and Burdette; Drs. Cotton and Appleton present. Both ovaries cystic. Small quantity of pus observed in right one.

CASE XIV.—Mrs. H. S. W., age 32. Mother of four children. Two weeks after last confinement (sixteen months previous to operation) was taken ill with what was diagnosed as inflammation of bowels. Has been an invalid for the past year, complaining of severe pain about the pelvis. Operation March 22d, 1888. Double pyo-salpinx. Ovaries and tubes closely adherent, and removed with difficulty.

CASE XV.—Miss M. B., age 31 years. Has been in poor health for ten years. Menstrual flow always profuse, accompanied with pain, which was most severe on the first day of period. Has had two attacks of pelvic peritonitis; last attack three weeks previous to operation. Operation April 21st, 1888.
Ovaries enlarged and cystic. Small amount of pus in left ovary. Corresponding tube enlarged. Left tube inflamed and adherent to its ovary.

**Case XVI.**—Mrs. F. W. C., age 36. Mother of two children. Two years since birth of last child, from which time illness dates. Severe menstrual pain. Locomotion difficult. Functional disturbances of the nervous system very prominent. Bilateral laceration of the cervix uteri. Both ovaries tender to touch. Diffused pain and soreness over lower portion of abdomen. Operated on cervix April 14th, and on May 8th, 1888, removed both ovaries and tubes. Left ovary contained half ounce of serum. Right ovary filled with blood and serum. Patient made rapid recovery.

**Case XVII.**—Mrs. B. L. McC., age 42. Mother of two children. Resident of Maryland. Had been unable to walk for several months. Suffered from very severe dysmenorrhea. Symptoms of nervous derangement very prominent. Physical examination showed the tubes to be greatly distended and very sensitive to touch. Operation May 9th, 1888. Tubes enlarged, both ends occluded, and filled with pus and blood.

**Case XVIII.**—Mrs. Annie A., age 37 years. Three years after marriage commenced her severe suffering at each menstrual period. At time of examination complained of intense "dragging" pains on both sides of lower part of abdomen. During past year has become an invalid from effects of reflex vomiting. Operation July 2d, 1888. Both ovaries cystic and enlarged to three times their normal size.

**Case XIX.**—Mrs. R. A. U., age 20 years. Married nine months. Always suffered from more or less dysmenorrhea and leucorrhea. Constant uneasiness over the ovarian regions. Operation July 3d, 1888. Ovaries cystic and considerably enlarged. Tubes in a catarrhal condition.

**Case XX.**—Mrs. M. A. L., age 32 years. Always suffered more or less from dysmenorrhea. Mother of two children. Dates her illness from an abortion two years ago. Pain of a "dragging" character, nearly constant, over both ovaries. Uterus found to be immovably fixed in a retroverted position. Tubes enlarged and ovaries prolapsed. Operation July 3d, 1888, assisted by Dr. Thomas. Ovaries and tubes removed. Ovaries cystic, and tubes distended with serum and slightly adherent.

**Case XXI.**—Mrs. J. A., age 32 years; married ten years. No children. Suffered for two years past with severe pain in left iliac fossa. Gives history of gonorrhea. Examination revealed presence of a hard, immovable tumor in region of left ovary, very tender to touch. Operation July 6th, 1888. Left ovary scirrhous, and tube greatly distended by pus and blood.

**Case XXII.**—Mrs. Julia M., age 30 years; mother of three

Case XXIII.—Mrs. C. E. W., age 27 years; mother of two children. Has been an invalid for two years. Great suffering from dysmenorrhea. Found both ovaries enlarged and very sensitive to touch. Operation July 10th, 1888.

Case XXIV.—Mrs. L. S. C., age 32 years; married ten years. No children. General health before marriage was good, but soon after became a great sufferer from dysmenorrhea. Operation July 11th, 1888. Both ovaries cystic, and left tube filled with pus.

Case XXV.—Miss A. O., age 23 years. Has been an invalid for several years. Severe dysmenorrhea, and intense pain in back. Operation September 4th, 1888. Both ovaries enlarged and cystic.

Case XXVI.—Mrs. N. O. O., age 37; six children. Date illness from birth of last child. Severe pain in both iliac regions. Operation September 5th, 1888. Both tubes occluded and filled with serum. Ovaries cystic.

Case XXVII.—Miss D. R. T., age 23. Menstrual period lasts ten days. Has never suffered any pain, but the flow is profuse, and the resulting exhaustion so great that she is obliged to remain in bed the greater part of every month. Operation September 6th, 1888. Found both ovaries greatly enlarged, very soft and spongy.

The following fifteen sections were made in cases of myofibromata of the uterus; oophorectomy being performed upon these patients for the premature induction of the menopause, since it seemed to promise better results and greater relief than any other method of treatment, when the numerous complications and variety of disorders noticeable in many of them had been carefully considered.

Case XXVIII.—Mrs. S. D. Operation September 16th, 1887.

" XXIX.—Mrs. M. W. " 21st, "
" XXX.—Mrs. L. V. F. " 24th, "
" XXXI.—Mrs. C. J. T. " October 13th, "
" XXXII.—Mrs. S. H. L. " 18th, "
" XXXIII.—Mrs. F. R. S. " December 3d, "
" XXXIV.—Mrs. J. E. W. " 12th, "
" XXXV.—Mrs. J. T. R. " January 9th, 1888,
" XXXVI.—Mrs. R. L. E. " February 22d, "
Abdominal section was made in the following nine cases for the purpose of extirpating the diseased ovaries, or for the relief of troubles arising therefrom. The two cases of most interest are reported at length:

Case XLIII.—Mrs. W. W. Operation November 3d, 1887.

Case XLIV.—Mrs. E. N. A case of multilocular ovarian cystoma. On November 2d, 1887, Dr. Garrod brought this lady to my office, stating that she had an ovarian tumor of large size. Vaginal examination revealed the uterus rather mobile, and the lower surface of the tumor capable of being barely touched with the finger. The patient was very stout and muscular, and had suffered very little inconvenience from the presence of the tumor, except that of dyspnea, which slight exertion would produce. Operation November 4th, 1887, in which I was assisted by Drs. Garrod and Clarke. An incision, three inches in length, was made in the usual place. As soon as the tumor was reached, Tait's large trocar was plunged, as near as possible, into its centre, but no fluid escaped. Trocar removed, and the incision in the sac enlarged sufficiently to admit the hand. I was then able to break up and remove the contents of a large number of small cysts (fully fifty).

Sufficient room having now been gained, the hand was carried outside the sac to determine the points of adhesion. It was found to be more or less adherent to everything with which it came in contact, including the stomach and liver. Fortunately, many of the adhesions were easily broken, only a few causing delay and difficulty. The remainder of the tumor was finally brought out through the abdominal opening, and the pedicle, which was quite large, was transfixed and tied with the "Staffordshire" knot; the mass was then cut away. In the sac thus delivered were found quite a number of cysts remaining unbroken. The abdominal cavity was flushed with warm water, the wound closed, and a glass drainage tube inserted at the inferior angle. But little shock followed the operation, and the time occupied in its performance did not exceed thirty minutes. My annoyance and anxiety caused by the doubtful purity of the water which I was obliged to use in this case, and other inconveniences to which I had to submit, by no means consistent with
"antiseptic precautions," reminded me of a former occasion, when Dr. R. S. Henry and myself went into a far-off mountainous district to do an operation involving very serious responsibility, when we had to carry with us our own towels and soap, catables, clean tin pans, etc., and spend half a day helping to scrub the room in which we wished to operate, and where our patient had to remain, for how long or short a time we dared not say. In this case of Mrs. E. N., I wished (until after she became convalescent) that I had even carried the water with me. The operation was obliged to be done at the patient's home in the mountains; and owing to the unusually dry weather which prevailed at the time, the only supply of water was from a little stream near by which had nearly exhausted itself. Some of the water was, no doubt, boiled, according to instructions given; but some, I know, was only warmed. However, the temperature reached its highest at 102°. Drainage tube removed on fourth day. I did not see the patient after operating, owing to the long distance from home. The after-treatment was successfully carried out by Dr. Garrod, the family physician, and he reports she has made an excellent recovery. The weight of the mass removed was nearly forty pounds.

Case XLV.—Mrs. C. E. C. Operation December 10th, 1887.

XLVI.—Mrs. B. H. January 14th, 1888.

XLVII.—Mrs. L. C. V. March 16th, "

XLVIII.—Mrs. J. L. L. April 2d, "

XLIX.—Mrs. C. M. F. May 5th, "

Case L.—Mrs. S. L. S. Intra-ligamentous cyst. This lady was sent to me by Dr. Franklin, of Chillicothe, Ohio. Her age was 32; mother of three children. Last confinement nineteen months prior to operation. Her health had always been good until within the last two years. Her illness commenced with a sense of uneasiness in the left inguinal region, gradually increasing to a pain; then a "lump" attracted her notice. After a careful examination and a summary of all the rational and physical signs, I was forced to the conclusion that I had to deal with an ovarian cyst, and so diagnosed it. Operation May 9th, 1888, assisted by Drs. Clarke and Miller, of St. Albans, W. Va. When the tumor was exposed to view, it was found closely adherent at its several points of contact. The bladder was adherent to its anterior portion, and dragged sufficiently upward to become attached to the peritoneum. My first effort was to carefully dissect away and free this viscus, which I finally succeeded in doing without injury to it, but not without unexpected and alarming hemorrhage, which required no little time to be controlled by the united means of hot sponge pressure and liq. ferri chloridi.

The outer and upper portion of the tumor was adherent to the liver and intestines, but in the separation of these and other
adhesions I experienced no difficulty when compared with those of the bladder. Then I opened the sac and removed nearly a gallon of semi-solid substance. It was then revealed that the bottom of the sac contained growths of a papillomatous character, the removal of which caused complete collapse of the cyst. An effort to draw out the cyst was not successful until the traction was aided by the finger being passed downwards and under, and the firm adhesions to the pelvic tissues broken. The sac was finally separated from the left broad ligament. Many of the blood-vessels were large and the hemorrhage was extensive and annoying. There was no pedicle, and the tumor was entirely removed. The edges of the intra-ligamentous wound were attached to the border of the abdominal incision, and a glass drainage tube inserted. The wound was washed out twice a day with warm water, and a good recovery resulted.

**Case LI.**—Mrs. V. A. W. Operation Sept. 29th, 1888.

**Pelvic Abscess.**

The following eight sections were made in cases of pelvic abscess:

**Case LII.**—Mrs. C. L. Operation Sept. 28th, 1887.

**Case LIII.**—Mrs. M. L. T. Operation Nov. 21st, 1887.

**Case LIV.**—Miss F. A., 27 years of age. Had always been delicate. Strumous diathesis very marked. She was emaciated to a considerable degree. When she entered my private hospital (February 27th, 1888), her evening temperature was high, and she suffered from intense pain and tenderness about the pelvic region, and at times from great interference with urination. Simple inspection revealed at once the increased size of the lower abdomen, extending nearly as high as the umbilicus, making a marked contrast with her otherwise emaciated condition. Physical examination revealed the presence of a large, fluctuating tumor, the roof of the pelvis hard, and the uterus pressed to one side and immovably fixed. The abdominal surface was selected as the point of evacuation. A large cavity, containing nearly two quarts of fetid pus and decomposing blood-clots, was found, and its contents removed with the aid of a large suction pump.

The cavity was carefully cleaned and two drainage tubes placed, one in the pus cavity and the other in the abdominal wound. She passed through the operation much better than I had anticipated. At the end of a week both drainage tubes were removed. I then made an opening in the bottom of the sac through the vagina, and inserted a soft rubber tube, which remained in position three months. After its removal complete closure of the vaginal opening followed. I learn that the lady has married since and engaged in teaching.

**Note.**—Since writing the above, I have been informed that this patient died recently, after a few days' illness from pneumonia.
Case LV.—Mrs. G. H. S. Operation March 1st, 1888.

" LVI.—Mrs. A. J. H. " March 8th, "

" LVII.—Mrs. J. N. R. " May 19th, "

" LVIII.—Mrs. A. M. " July 2d, "

" LIX.—Mrs. C. J. A. " October 14th, 1887.

MISCELLANEOUS SECTIONS.

Case LX.—Miss F. H. H. Papillomatous cyst of left broad ligament. Operation October 12th, 1887.

Case LXI.—Mrs. E. C. Fatty tumor of the omentum. Operation October 16th, 1887.

Case LXII.—Mrs. S. C. G. Fibroid of uterus. Operation November 9th, 1887.

Case LXIII.—Miss M. A. E. Fibroid of uterus. Operation November 17th, 1887.

Case LXIV.—Miss R. W. Papillomatous cyst of the right broad ligament. Operation December 4th, 1887.

Case LXV.—Mrs. J. C. J. Fibroid of uterus. Operation December 4th, 1887.

Case LXVI.—Mrs. S. A. W. Operation December 5th, 1887, for biliary calculi, in conjunction with Dr. R. S. Henry. (A detailed report of this case will be presented later.)

Case LXVII.—H. F. S. Fibroid of the peritoneum. Operation December 19th, 1887.

Case LXVIII.—Miss C. V. F. Papillomatous cyst of right broad ligament. Operation December 20th, 1887.

Case LXIX.—Mrs. R. S. Fibroid of the peritoneum. Operation February 13th, 1888.


Case LXXI.—Miss L. W. T. Laparatomy for acute peritonitis. Operation March 17th, 1888.


Case LXXIII.—Mrs. E. D. S. Hydatid of the liver. Operation April 9th, 1888.


Case LXXV.—Mrs. W. W. S. Operation for gall stone, July 7th, 1888.
The closing of this report with the reference to the following subjects is not done because I have anything new to offer in regard to them, or that any particular set of rules rigidly observed in regard to the technique, dressings, etc., are "the rules" for all cases of abdominal section. In these cases I have been blessed with success. In some of them a successful result was not anticipated, as little, if any, choice and time were permitted, previous to the operation, for a tonic course of treatment, the promotion of cheerful surroundings, and the selection of the best locality and most favorable period for the operation. Besides, these patients were unable to avail themselves of the advantages of competent and experienced nurses. All of which we regard as important, and insist upon when at all practicable.

Every medical man, after he has acquired a little experience in surgery, especially abdominal surgery—without intentional disrespect and disregard of his teachings; without intended criticism of the manner and methods pursued by the eminent gentlemen whose operations he may have witnessed; without the assumption that he has discovered some manner or adopted some method superior to that practised by any other surgeon, and to which his good results in successful cases must be attributed—naturally drifts into a routine of procedure more or less his own, which he continues to practise from time to time, introducing such modifications and departures as the exigencies of a particular case may demand or the further development of his surgical branch may warrant. With these points in mind, I will briefly sketch, under the following heads, the general plan followed in making the sections above noted.

Anesthetics.—After repeated trials with ether and chloroform separately, and the use of several different forms of "inhalers," I now confine myself almost entirely to the use of a mixture of these two anesthetics, one-third chloroform and two-thirds ether, and administer the same by means of the "Clover" Inhaler. After eighteen months' trial of the "Clover" Inhaler, I have experienced more satisfaction than by any other method I have ever tried. The "Inhaler," which I brought with me from London, is easily cleaned, portable, and perfectly accurate in the amount and manner of dispensing.

The mixture is made just before administration. The advan-
tages presented, in my experience, by causing anesthesia in this way are:

1st. Patients are anesthetized more quickly and recover from the influence of it sooner; rarely any vomiting interrupts the operation.

2d. The patient requires a less quantity to preserve the anesthesia during the operation.

3d. The surgeon and his assistants are not inhaling the anesthetic agents. The quantity of the mixture used has rarely exceeded one and a half ounces. The economy, while not a great desideratum, is still worthy of consideration.

Making the Incision, Closing, Dressing, etc.—The incision is made with a small, sharp scalpel, and intended to pass directly through the linea alba, although it is often not detected when the abdomen is undistended. After the incision has exposed the sheath of the recti muscles, the scalpel is aided only by a pair of small forceps, with which the remaining tissues are pinched up and incised. The finger is the guide upon which the peritoneum is cut the length of the wound. I always make it a rule to work through as short an incision as possible, only enlarging it when it is evident that such will facilitate the removal of the growths, or when the connection of adhesions can be more accurately ascertained and dealt with with greater safety. In many of the cases of oophorectomy the incision did not exceed an inch and a half in length. I endeavor to operate as quickly as possible; have everything in the line of instruments, etc., that might be needed ready and close by me, although in the majority of cases the scalpel, the small "pick-up" forceps, and the fingers do all the work.

The closure of the abdominal incision is made with one set of fine silk sutures placed close together. The sutures are all placed in position before any are secured. Additional sutures are used, if found necessary, when the edges of the wound are approximated by grasping the opposite ends of the suture in each hand, the object being to use a sufficient number of sutures to bring the edges together closely, smoothly, and securely all along the line of incision.

In one case only did I have a little suppuration in one of the suture tracks. I have discarded the use of iodoform, with which I formerly dusted the incised tract, and now use only a small piece of absorbent cotton (not larger than my hand) over
the wound, holding it in place by a couple of adhesive-plaster strips. A light muslin abdominal bandage is applied, the lower edges of which are prevented from rolling up by a "pinch-garter" strap attached to the stockings. I make no hurry to remove the sutures, and therefore have no fixed rule as to the time. I am guided by the rapidity of the union, and satisfy myself of the strength of it, often removing a few at a time. During the past two years I have changed entirely a former plan in regard to two points in the after-treatment, viz., opening the bowels and the administration of food. Formerly I kept the bowels at rest for a week at least, and in some cases I encountered difficulty in securing a movement at all, the very knowledge of which difficulty caused the patients anxiety and produced sufficient excitement to prevent rest. Besides, it is reasonable to infer that persons who have been accustomed to one or two daily evacuations from the bowels should experience a sense of restlessness and uneasiness, if no greater disturbance, when this habit is suddenly interrupted for a week; to which may be added the disturbing influences of anodynes upon the nervous system as well as the bowels, which I once thought should be occasionally administered.

Now it is my practice to administer on the second, or third day at least, teaspoonful doses of epsom or rochelle salts every three or four hours, until a thorough evacuation has resulted; and continue the same, if necessary, every three days, until the tenth day has passed. This procedure has given me very great satisfaction. Instead of withholding food for two days after operating, as I once did, I allow the patient, on the next morning, to eat freely of plain chicken broth; adding rice thoroughly boiled in the same the second day; following on succeeding days with small quantities of toast, beef tea, oatmeal gruel, eggs, chicken, and beefsteak. I have expunged milk from the list of articles of diet allowed during the after-treatment.

Antisepsis.—While I fully appreciate the value of antiseptic agents in surgery, there is no special form to which I strictly adhere. My object is always to secure thorough cleanliness and not neglected details. In all cases instruments are placed in boiling water before operating; hands of the operator and assistants carefully cleaned; listerine and carbolic acid sometimes used; body of the patient well washed; clean clothing
linen, bedding, etc., and clean room for operating always required.

Plenty of fresh water, as hot as can be handled, is freely employed during the operations. In a word, asepsis, as well as we know how to practise it, is the aim in all operations done.

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THE VAGINA AS A HERNAL CANAL.¹

BY

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(With three illustrations.)

The fleshy diaphragm called the pelvic floor has a peculiar function. It must close up and completely seal the lower end of the body-cavity, resisting strong and frequent pressure; it must open up and leave completely free the lower end of the cavity, must make away with itself when occasion demands, and yet resume its other function with unimpaired integrity. To the study of this interesting mechanism a brief contribution is here offered.

Dr. D. Berry Hart has ably and clearly brought forward certain views concerning the division of the pelvic floor into two segments, known as the pubic and the sacral:

"The pubic segment is made up of loose tissue, viz., bladder, urethra, anterior vaginal wall, triangle of retro-pubic fat, and bladder peritoneum. It is attached in front to the symphysis pubis.

"The sacral segment is attached to the coccyx and sacrum; it consists of rectum, perineum, and strong tendinous and muscular tissue [making up the so-called perineal and ano-coccygeal bodies]. The inferior portion of this segment, the perineum, lies about one and a half inches from the symphysis. The attachment of this segment is very strong.

"During labor the pubic and sacral segments, as seen in a

¹Part of the Prize Essay, for 1887, of the Association of the Alumni of Long Island College Hospital.
as a Hernial Canal.

sagittal mesial section, may be likened to two folding doors. Uterine action pulls up the pubic segment, and drives the child down against the sacral one. This action is analogous to the way one passes through two folding doors, when he pulls the one door toward him and pushes the other from him" ("Manual").

Objections to Hart's Views.—Dr. Frank P. Foster pointed out that "the author has lost sight of one important fact in connection with the pubic segment, viz., that the sacro-uterine ligaments are a practical extension of this segment to the posterior bony wall of the pelvis, thus transforming it into a sup-

Fig. 1.—The segments and their attachments, showing the resemblance to the inguinal canal herein, that the extruded body passes through an opening in the thin portion of each layer, which opening is fortified by the thick part of the other layer. (M)

porting medium for the uterus." The anterior vaginal wall, attached in front to the uterus, and the ligaments behind the uterus, constitute its main support, according to his view (AMER. JOUR. OBSTET., January, 1880).

Another objection is urged by Ranney (N. Y. Med. Jour., July, 1882), "namely, that the sacral segment is continued as far forward as the symphysis pubis in all antero-posterior sections of the pelvis, except those in the median line; here the opening of the external genitals exists, and it apparently makes its ter-
ministration at the posterior commissure of the vulva. This anatomical fact is not made apparent in Hart's drawings of this segment, and must, to my mind, destroy all similarity of this segment to a hinged flap.

To me it seems that the pelvic floor has been constructed exactly on the principle of the inguinal canal. On examination of that canal we find two layers with an opening in each for the exit of the cord. The rings are not one over the other, but at such a distance one from the other that, when pressure from within is exerted, the opening in the inner layer is firmly crowded against a flat surface of the outer layer, while a part of the inner layer covers the outer opening. So here. The

thick pubic segment has a thin circle of attachment to the sacrum through which a cleft may be said to open between the utero-sacral ligaments. This is the inner aperture. From it a canal (the vagina) runs obliquely downward to the flaw in the outer layer. This outer layer is the thick saeral segment with a thin circle of attachment to the pubes—mainly, the levator ani and the fascia. The outer opening is the vaginal orifice.

Intra-abdominal pressure will act on the "closed" pelvic floor just as it does on the inguinal canal, crowding the weak part of each layer against the thickened strength of its fellow. This
as a Hernial Canal.

explanation seems more reasonable than Hart's folding doors swinging free beyond a slight lap.

The points of resemblance between the inguinal and vaginal canals may be epitomized as follows:

1. Both are openings into the lower end of the abdominal cavity.
2. Both run out from the cavity nearly or quite at right angles to the abdominal pressure.
3. Each has two main layers, with a ring in each layer.
4. When the body which is protruded through either is small, be it gut or uterus, the hernia is oblique; when the body protruded is large (and gradually distends the passage), the two rings lie one over the other, and the opening seems single.

The points of difference are:

1. No cord escapes through the vaginal hernial canal.
2. The inner ring of this canal is closed in part by the uterus, set into it like a cork, and is in part roofed by the bottom of the pouch of Douglas.
3. One is built of tissue which is firm and unsuited to yielding under strain; the other is constructed with especial reference to elasticity and distention.

The two layers are made up in the following way:

1. The upper layer:
   a, thick portion: Retro-pubic fat.
   Bladder and urethra.
Parametric tissue of Virchow inclosing the cervix, together with the cellular tissue at the bases of the broad ligaments.
Anterior vaginal wall.
Peritoneum.

\[b, \text{ thin portion} : \]
Broad ligaments.
Utero-sacral ligaments.
Peritoneum.

2. The under layer:

\[a, \text{ thick portion} : \]
Coccyx.
Rectum.
Ano-coccygeal body.
Perineal body.
Posterior vaginal wall.

\[b, \text{ thin portion} : \]
 Levator ani muscle and fascia.
Lesser muscles, fascia, and skin.

In the diagrams, Figs. 2 and 3, we observe that the "fibre," or general structural trend, of these two layers runs in very different directions, the fibres of the upper layer radiating from a point in front, the lower from a point behind. If we put the two together, the structure resulting would seem to be one well qualified for bearing strain, yet admirably adapted to open up in the truly remarkable manner by which delivery is accomplished—namely, by pulling up the upper layer with the cervix, to which it is firmly attached, and by driving down the under layer in a distorted funnel shape.

*Hernia*—that is, prolapse of the uterus and vagina—will occur under these conditions:

1. When the increase of pressure or of weight from above is so great that it bears down before it supports which are normal in strength, and which are made up of the two layers.

2. When the rings have begun to lap one over the other. This happens when injury to the upper layer—most commonly to the utero-sacral and broad ligaments—allows the upper opening to slip forward toward the lower one, and when laceration of the perineum enlarges the lower ring backward so that it approaches the upper ring. Injury to the levator also drops the lower ring backward, as in cases of prolapses in which the perineal body is untorn, whereas a strong levator holds the
lower segment steadily against the upper ring, drawing the anus forward toward the symphysis, and preventing prolapse, even where severe perineal laceration is present.

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INTRA-UTERINE THERAPEUTICS.

BY

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New York.

(Concluded from page 620.)

Consideration of both the favorable and unfavorable cases leads to the following conclusions:

I. Intra-uterine cauterizations, like all other topical irritating medications, always determine a dilatation of blood-vessels at a distance from the point of application. This corresponds to the zone of peri-inflamatory hyperemia which surrounds every focus of inflammation.

II. In this distant vascular effect lie at once a principal power for good and also the essential danger of the method. While topical medication of the cervical canal limits its influence to the surface to which a drug is applied, intra-uterine medication profoundly modifies the circulation and innervation of the submucous and even perinterine tissues. In doing so, it becomes dangerous, precisely in the proportion to the degree of perinterine hyperemia which may have pre-existed.

III. Nearly all the cases of accident depend upon this circumstance. Proximity to a menstrual period, presence of chronic peritonitis, ovaritis, or salpingitis, or even an intense degree of engorgement of the perinterine reservoirs and ovarian bulb, without inflammatory exudation, all tend to render intra-uterine medication dangerous, because tending to render perinterine hyperemia excessive.

IV. Among all conditions of danger, none is so important as the proximity of a menstrual period.

On several occasions, the post-menstrual applications have been made upon patients with enlarged ovaries, or even with
symptoms of chronic peritonitis, and no more untoward result has been observed than an increase of dysmenorrhea at the next menstruation. Several patients—and three out of the seven whose histories have been detailed—were treated several times with marked benefit so long as the treatment was confined to the post-menstrual week, yet suffered more or less severe accidents when precisely the same applications were made later than fourteen days from the close of menstruation.

It does not seem to me that the paramount importance of this fact has hitherto been adequately recognized. It is not, indeed, so many years ago that many modes of intra-uterine medication, even including the use of sponge tents, were distinctly advised in preference for the premenstrual week, and I have collected a number of even contemporary recommendations to the same effect. In the light of our present knowledge, such advice must be considered as simply crazy.1

The remarkable difference in toleration to intra-uterine medication existing at different periods of the menstrual cycle is in itself an important indication of the gradual development of the peritoneal reservoirs during the intermenstrual period. For eight or ten days after the cessation of the menstrual hemorrhage, the utero-ovarian system is quiescent, the pelvic circulation and innervation at their minimum of excitability. This is the golden moment which, and almost alone, can be seized for the intra-uterine treatment of sufferers from pelvic disease.

V. The peritoneal veins differ from all others in the body in assuming, at the close of the quiescent period, an active growth, in virtue of which blood is supplied to them in anticipation of the needs of reproductive nutrition. During this period their condition somewhat resembles that of the vessels surrounding a focus of inflammation, which dilate actively, and even grow in response to the central stimulus of the focus. Irritation of the focus, overwhelmingly increasing the stimulus, is liable in the one case as the other to disastrously aggravate the peripheric hyperemia, even to the point of determining exudation from over-engorged blood-vessels.

VI. The period of danger varies, but in all doubtful cases

1 "The physician may safely pass the sound, or apply intra-uterine medication, so long as the menstrual period is not actually imminent" ("wenn die neue Periode noch nicht dicht vor der Thüre steht"). Ahlfeld, Deutsche med. Wochenschr., 1880, p. 451.
may be assumed to begin ten days after the close of a menstruation, although unquestionably in many cases intra-uterine applications are made with impunity much later.

VII. Another important fact made evident by analysis of the cases is the influence of the repetition of treatment within one menstrual cycle. When we read of patients who receive three, five, and six intra-uterine applications every month, and for several months, we may well ask, to explain such tolerance, whether the medicine has ever penetrated within the internal os. It has happened over and over again, in the management of the cases here referred to, to find one post-menstrual application perfectly well tolerated, but, if repeated in a week, to cause much pain and be followed by a painful menstruation. The only case of death on the list followed upon such a re-duplication of the treatment, which, confined to the post-menstrual week, had been perfectly tolerated and had done good.

The explanation is the same as for the other cases. After a single intra-uterine application, the peruterine vessels are somewhat dilated or their periodical growth is stimulated. Within certain limits this is beneficial, for venous stasis tends to be thereby dissipated. But if to this be added the further stimulus of a second application, the effect easily becomes excessive. The rule must be, therefore, never to make two applications in one month until tolerance of one has been well proved or established, and usually on the first trial to make it of a milder character. Only very rarely, and when disease is entirely limited to the uterus itself (which is rarely the case), can three applications be made.

VIII. It is, however, sometimes useful to follow a single intra-uterine application by weekly, or even semi-weekly, medication of the cervical canal.

IX. For the same reason that two applications in one month are often too irritating, the continuance of treatment through too many successive months will often do more harm than good. After three months it is nearly always advisable to suspend intra-uterine medication for one, two, or three months. Other forms of treatment can then with profit be continued.

X. If an intra-uterine application be followed by an unusual intensity or duration of pain a day or two later, it is very common to find some degree of swelling in the lateral or posterior cul-de-sac; sometimes this only indicates swelling of the
vascular connective tissue and the periuterine plexus. But sometimes, especially when there have been severe cramps, it seems to imply that fluids have been squeezed out of the Fallopian tubes into the cul-de-sac of Douglas, there exciting a circumscribed peritonitis. This may develop without fever and exist without much conscious aggravation of the patient's condition. Local applications of iodine or the constant galvanic current will dissipate these small swellings rapidly; but they necessitate interruption of intra-uterine treatment for at least three months, sometimes much longer. The benefit derived from the medication is by no means lost; when the transient irritation has subsided, the patient may perfectly recover. The case may be compared with the surgical operations which fail to heal by first intention, but which, after some troublesome suppuration and without dangerous accident, at last recover completely.

XI. After the time and number of the applications, the place at which they are made is of great importance. In certain cases of indolent chronic metritis of multipare they may be made safely in the physician's office; but in the great majority of cases it is as unsafe to do this as it would now be recognized to be to introduce a sponge tent. They must be made at home, the patient in bed, and remaining there from six hours to six days, according to the severity of the reaction.

Intra-uterine medication must indeed be regarded as a surgical operation; minor, usually, as regards facility of execution, but always liable, unless all precautions are taken, of rising to the dignity or notoriety of a very serious affair.

XII. A fourth consideration is that of dilatation. In the majority of the foregoing cases, the application was preceded by the use of the steel dilators. Sometimes, however, these were found to cause much more pain at the time, and to be followed by more pain through the month, than when the application was made by means of a Braun syringe with cotton-wrapped nozzle and without previous dilatation. In these cases, the canal, though not abnormally dilated, was easily pervious.

There are two classes of cases where it is better to use laminaria tents than steel dilators, or the immediate application. The first class comprises cases of spasmodic dysmenorrhea without intermenstrual symptoms, and where there is great
JACOB: Intra-Uterine Therapeutics.

sensitiveness just at the internal os. There is then often pro-
fuse catarrh. Here the endometritis seems to be principally 
localized at the region of the sphincter, and is analogous to 
those catarrhs of the bladder which are localized at the tri-
gonum. A laminaria tent tends to overcome the irritability 
of the sphincter, while at the same time it removes, as hardly 
anything else can, mucus accumulated in the crypts of the lining 
membrane, stretches and unfolds this, permits topical appli-
cations to come in thorough contact with it, while its own 
pressure and imbition tends to disengorge the swollen tissues. 
The second class of cases comprises the chronic metritis, where 
the womb is large and heavy. The canal may be dilated, 
though often it is only normal in size; the endometritis is 
apparently slight in comparison with the parenchymatous lesion. 
These are the cases for tents, according to the indication long 
ago pointed out by Dr. Sims. It is often advisable not only to 
use one tent, but after twenty-four hours to insert, as may then 
be done, two or three. With thorough aseptic precautions, 
and with laminaria tents, the procedure should not be dangerous. 
When there is a profuse muco-purulent discharge from the 
internal endometrium, with the necessary accompaniment of 
largely dilated lymph spaces, and the frequent complication of 
latent salpingitis or parametritis, the testimony of all authori-
ties seems to be that even aseptic tents are at least liable to be 
dangerous, and intra-uterine application without dilatation even 
more so. It is for these cases that the method advocated by 
Goodell and Polk—complete and forcible dilatation of the 
uterus under ether, followed by curetting, antiseptic and 
stimulating applications, and drainage by means of a tube—is 
pre-eminently applicable. The list of cases analyzed in this 
paper does not, however, include any which precisely belong to 
this class.

XIII. The fifth, and certainly an important, consideration 
is that of the agent to be employed for intra-uterine cauteriza-
tion.

The first point to be distinctly emphasized is that intra-ute-
rine application must always be more or less profoundly caustic. 
Astringent remedies irritate, without securing any compensa-
tory advantage. Four drugs have long dominated intra-uterine 
therapeutics—iron, iodine, nitric acid, carbolic acid. Nitrate of 
silver, formerly so much used that injections of its solution
were fearlessly made twice a week, seems now to be justly abandoned by common consent. The sesquichloride of iron seems to be the favorite remedy in the hands of German physicians. Hildebrand long ago advised it as a specific in uterine catarrh, and it is similarly advised by Fritschi. I have twice seen metritis excited by the cautious introduction of iron into the uterine cavity, and have so frequently found it fail, even in hemorrhagic fungous endometritis, that I have abandoned it altogether. It is supposed to powerfully excite the contractility of the uterine wall. But it is certain that this effect is as readily produced by other agents that do not share with iron the dangerous property of forming coagula, which may even penetrate a uterine gland. The effect often resembles that of injecting iron into a nevus or a goitre, where also accidents often occur.

Carbolic acid diluted with glycerin, equal parts, is the mildest application which can be used with effect to the internal endometrium. The anesthetic effect is a valuable addition to the cauterizing action; and the latter is slight when glycerin is used. It is well known that Playfair restricts intra-uterine medication exclusively to the use of carbolic acid, more often pure than diluted.

Similarly, Lombe Atthill claimed to treat all cases of endometritis by fuming nitric acid. It is difficult to imagine any circumstance calling for the use of so strong a preparation of so powerful an agent. Nitric acid diluted with equal parts of water will produce an eschar fully as thick as is desirable, and the application is then far more painful than the iodine or phenol applications; i.e., the immediate pain is not greater, but the secondary pain is far more severe and prolonged. Hence it is evident that the peripheric hyperemia is much greater.

The nitric acid applications are suitable, if at all, to the cases where the uterus is large and flabby, rather indolent, with dilated canal, thickened endometrium, and profuse catarrh. When the uterus is closed, tense, and irritable, nitric acid can only do harm.

Iodine, and the modern substitute introduced by Dr. Battey, iodized phenol, is much more complete in its effects than the foregoing drugs. There is an immediately topical effect, and

1 Volkmann's Klinische Sammlung.
another may be anticipated from absorption of the iodine into the tissues, and through them into the general circulation. I tested this absorption by the following experiment: On a patient whose bladder had just been emptied, I made an intra-uterine application of iodized phenol, by means of the Braun syringe with cotton-wrapped nozzle. Three hours later, urine was passed and tested for iodine by the addition of boiled starch solution, a few drops of dilute sulphuric and of muriatic acid, and a drop of bisulphide of carbon. The entire test tube turned deep violet from the liberation of the iodine.

The tincture of iodine and the iodized phenol both coagulate the albuminous fluids on the surface of the mucosa, and in so doing cauterize this surface and form an eschar. Thus, as with other caustics, some diseased tissue is destroyed; the blood-vessels adjoining the eschar are dilated by active irritation, and the circulation in them quickened.

The more characteristic effect of iodine compounds depends upon the facility with which the iodine contained in them is set free, and from this point of view the action of iodoform should be identical with that of iodine tincture. According to Binz and Högyes, iodoform is dissolved in the fats which may be present at the point of application, and thus enter the circulation. In the capillaries, the iodine is readily given off from its soluble compound to the albuminous protoplasm of the cells surrounding the vessels (Binz), or forms a loose combination with the circulating albumin of the blood, or the tissues (Högyes). Or else the iodine before absorption, having the strongest tendency to form this same loose combination with albumin wherever found, may unite with the albumin of the secretions. In this case may be usefully exerted the "starving" influence on the morbidly developed tissues of uterine catarrh and granulating ulcerations, by which Högyes explains the phenomena of iodine cachexia. According to this writer, the iodine does not attack the fixed albumin of healthy tissues, nor destroy them, as has been often asserted, by replacing it in the albuminous molecule. But in combining by loose association or

1 Virch. Archiv., 1874. Also Archiv. für exp. Pharm., Bd. VIII.
2 Arch. f. Pharm., Bd. X., 1879.
3 Boehm, Arch. Pharm., Bd. V., 1876.
4 This wide-spread hypothesis seems to have been disproved by Boehm, loc. cit.
apposition with the entire molecule of the circulating albumin, it prevents this from being appropriated by the elements of the tissues, and the latter are to that extent impaired in their nutrition.

The pure, characteristic effect of iodine should, therefore, be much more distinctly obtained from iodoform than from tincture of iodine or iodized phenol. Iodoform contains ninety-six per cent of iodine, yet is not caustic, only directly denutritive and antiseptic. The other iodine preparations are caustic, i. e., coagulate secretions, and destroy the superficial layers of tissue, and in the immediate and remote vicinity of the point of application are irritating, i. e., cause an active dilatation of blood-vessels with its consequences. The indications for choice between the two remedies may therefore thus be formulated: When it is desired to obtain the remote effect on the parenchymatous circulation of the uterus which results from cauterization of the endometrium, iodine tincture or iodized phenol is required.

When a superficial action is required on abraded hyperemic surfaces, or on ulcers with papillary granulations, iodoform is preferable.

It follows that iodine preparations are more often indicated for the uterine cavity and after dilatation, and with infrequent application; iodoform for cervical catarrhs and ulceration of the portio vaginalis. The absence of irritation, which is usually observed after its employment, enables it to be repeated at short intervals.

The following cases show a remarkably prompt action of iodoform:

Married; æt. 35; sterile. Intense generalized endometritis of many years' duration. Two years previous to present treatment, much periuterine tenderness and swelling, indications of tubal disease. At time of treatment, these periuterine symptoms had subsided, but there were profuse, tenacious discharge and great tenderness of endometrium, which bled on touch.

First treatment, Feb. 2d. Dilatation of cervix with laminaria tents; curetting cavity; application iodized phenol; glass plug left in cervix for two days.

Second treatment, Feb. 12th. Iodized phenol on probe to cervical canal.

Third treatment, Feb. 16th. Ibid. Effect: On 19th find plug of cervical discharge a little thinner; somewhat less sensitivity at internal os; repeat.
Fourth treatment. Ibid.
Fifth treatment. Iodoform pencil in cervical canal. Effect: Slight cramps on March 2d for first time; very great diminution of discharge; patient feeling very well.
Sixth treatment. Iodoform pencil inserted in canal; then a piece of absorbent cotton, soaked in solution of iodoform in almond oil, left in canal for an hour. Effect: Patient very well; next menstruation without pain.

Case II.—Married woman; six children. Treated for some time unavailingly for a superficial ulceration of portio vaginalis, and cervical catarrh in a retroflexed uterus, after replacement of pessary. No uterine symptoms, but much vesical tenesmus, aggravated at each menstrual period. Limited catarrh at neck of bladder demonstrated by endoscope.
Feb. 26th. First treatment: Iodoform pencil to cervical canal. Solution of iodoform in almond oil applied to cervical ulceration. Effect: For first time, marked improvement in ulcer and in catarrh observed on March 2d
Second treatment on March 2d. Ibid. Applications repeated on March 5th. Effect: On March 5th, ulcer almost healed. Menstruation expected in three days. Severe cramps in bladder. Iodoform pencil to urethra also. Effect: Immediate relief to bladder pain, which did not return through menstruation, nor by the 23d. At this time, ulceration so nearly healed that suggestion of operation on cervix, at one time made, was abandoned.

Case III.—Married; 27; one child, 3 years. Retroflexion and severe catarrh, with usual local symptoms; much relieved when uterus replaced, first by tampons, then a pessary. After two months, intra-uterine application of iodized phenol with rapid dilatation. Repeated following month. Patient felt nearly well, but moderate redness and secretion from cervical mucosa persisted in March.
March 12th. First treatment. Iodoform pencil to cervical canal.
March 16th. Ibid.
March 20th. Ibid. Effect: On 23d, cervix found perfectly healthy.

Case IV.—Married; æt. 25. Sterile. Patient treated in winter 1887-88 for retroflexion, generalized endometritis, ulceration of posterior lips, severe dysmenorrhea, and headaches. Effect: Relief to all symptoms for many months, though persistence, about unchanged, of ulceration. In fall of 1888, return of dysmenorrhea.
Feb. 4th. First intra-uterine application of iodized phenol. Effect: On Feb. 11th, the canal more contracted. Ulcer as before.
Feb. 11th. Repeat to cervical canal with Braun's syringe. Effect: In half an hour a good deal of pain.
On March 14th, large eschar eliminated. Abrasion. The same.
Feb. 14th. Iodized phenol on probe.
Feb. 23d. Second intra-uterine application of iodized phenol. Effect: Pain through night. Abrasion, as before, on March 5th.
March 5th. Solution of iodoform in almond oil applied to ulceration on absorbent cotton. Effect: For first time find ulceration much paler, and as if beginning to heal.
March 8th. Ibid. Effect: Menstruation without any pain.
On 22d, ulceration healing.

Case V.—Girl of 19. Had complained for a year of persistent pains over abdomen, much intensified at menstruation; endometritis and considerable periuterine congestion; chloroanemia and hysteria. Relief to many symptoms by appropriate treatment, without local applications other than hot sitz baths and anodyne suppositories at menstruation. Still persistence of abdominal pain, aggravation of hysteria. One intra-uterine iodized-phenol application after laminaria tent.
Result: At first much improvement, then return of pain. Tenderness at fundal endometrium.
Iodoform pencil pushed to fundus. Immediate relief to abdominal pain. Repeated three times, at four days' interval. Patient felt very well.

In two cases, in young girls, the iodoform pencils, though causing no pain at the time of application, caused a good deal of pain later, coming on in half an hour and lasting two or three hours. When the pencil is made with gelatin and melts slowly, it may become a source of mechanical irritation as a foreign body, although the iodoform has not yet come in contact with the mucosa. It is better to use pencils made of cacao butter, which melt almost immediately. They are, however, much more difficult to introduce.

Cauterization by strong currents of electricity is a more radically new method of treating endometritis than has been suggested for many years.1 With the positive electrode, the superficial layers of the endometrium may be changed into an eschar closely resembling that formed by chemical caustics. Yet the formation of this eschar is attended by a minimum of peripheric irritation, and on this account the electricity has a great advantage over all chemical caustics. Our knowledge of the intra-polar effects of the current traversing the uterus is confessedly meagre. But clinically it appears evident that—

1 See Apostoli's essay on chronic metritis; also Betton Massey, "Electricity in Diseases of Women," Philadelphia, 1889; also Grandin, American Journal of Obstetrics, 1887.
1st. The irritability of nerves is diminished by the prolonged passage through them of the constant current. This is in accord with laboratory experiments on exposed nerves.

2d. The excitability of muscular tissue is aroused, and principally by the faradic current. This is clearly demonstrated by the occurrence of uterine cramps.

3d. Hyperemia is lessened, possibly by means of the sedation of the cerebro-spinal filaments in the utero-ovarian nerves.

4th. Thus to the direct local effect on the endometrium are joined effects on the subjacent uterine parenchyma which are important in proportion to the degree of parenchymatous metritis which exists. In forty-seven cases related by Apostoli in the thesis of Carlet, where the patient is said to have received benefit from electrical treatment for a uterine fibroma, the description of the case would lead to the inference that the uterine enlargement, often very slight, was really due to a diffused metritis. The enlargement of the uterus in these forty-seven favorable cases diminished from one centimetre to a centimetre and a half, as measured in the cavity. I have used this method in the following cases unassociated with tumor:

First: Case of persistently recurrent granulations attended by severe hemorrhages during a period of eight years. Recurrence after removal by thorough curetting under ether. Cavity of uterus measured four inches. First electrical positive cauterization, followed by expulsion of thick large eschar, and after that there was no more hemorrhage. Treatment continued three times a week for two months, when patient was permanently cured. Cavity reduced to three inches.

Second case: Young woman with first stage endometritis causing severe dysmenorrhea, no intermenstrual symptoms. Single electro-positive-cauterization, followed by complete relief for three months. Then return of dysmenorrhea, again dissipated by repetition of treatment.

Third case: Young woman previously treated for endometritis by intra-uterine iodine applications; recovery; then, after two years, some return of symptoms. Completely dissipated by single electro-positive application.

Fourth: Woman of 40, suffering for several years from a complex group of hysterical symptoms together with pelvic dis-
tress interfering with walking, the whole apparently associated with development of several small subperitoneal fibroids. The uterus was enlarged to a depth of three inches, and there was some endometritis, which seemed to be the immediate cause of the symptoms, especially the persistent nausea. Six electrical cauterizations were made at rather varying intervals during a period of two months, and all the symptoms, especially the nausea and bearing-down pains on locomotion, entirely disappeared.

The first effect of the intra-uterine treatment was occasionally to increase these symptoms, or even (twice) to bring on a paroxysm of gastric distress. But on the day following, the patient felt perfectly well. The hyperemia, sensitiveness, and slight catarrh of the endometrium disappeared; the size of the cavity and the fibroids remained the same.

There is no doubt that the electrical method has the most important indications in the treatment of endometritis and metritis, and may indeed largely supplant other forms of local treatment.

To sum up in a word the fundamental considerations about intra-uterine treatment:

It is required, because disease of the endometrium rarely gets well without it, and because in disease of the endometrium all other utero-ovarian disease originates. Even infectious disease, often insusceptible of intra-uterine treatment because of the perinterine complications so rapidly established, is first manifested on the endometrium.

This treatment is urgently required, because of the severe symptoms often associated with an apparently slight lesion, and because of the tendency of the original disease to spread to the tubes, ovaries, and perinterine tissue, when treatment is much more difficult or may even be impossible.

The treatment is not devoid of dangers, but is nevertheless both possible and effective when these dangers are recognized and guarded against by suitable precautions. These precautions are based on minute observation of the details of the whole of the menstrual cycle.

When periuterine complications exist, the treatment must reverse the order of progress of the disease and proceed from the periphery of the uterine system towards the centre, the endometrium the last and the most cautiously attacked. Unless the
endometrium is healthy, peruterine treatment will only be partially successful in relieving the patient, though the relief may be great.

Treatment of endometritis is partly anatomical or surgical, and directed to the destruction of diseased tissue. It may, therefore, be suitably compared with the effect of cutting surgical procedures, as Emmet’s or Simon’s operations on the cervix, whose final effect is really produced on the endometrium. But the treatment is also partly physiological, designed to correct a morbid reproductive process, developmental, menstrual, or parturient. From this aspect it is to be compared with any method of constitutional treatment which succeeds in increasing the force of the circulation and raising arterial pressure, thus inducing the fundamental condition requisite to effect involution of subinvolved tissues.

ADVANCED PYELO-NEPHRITIS IN AN INFANT. 1

BY

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(With two illustrations.)

Extensive pyelitis and pyelo-nephritis are rare conditions in the very young, although the lesser degrees of these associated affections are commonly enough found at post-mortems. The infantile kidney responds more promptly than that of adults to renal irritants. The exhibition of various medicinal substances, the specific poisons of scarlet fever, diphtheria, and other infectious diseases, even simple pyrexia, are very apt to produce transitory renal disturbances, and at times more serious mischief. Indeed, it has recently come to be quite generally admitted that congestion of the kidneys, acute desquamative nephritis, and even parenchymatous and interstitial changes, occur in infancy and childhood with formerly scarcely suspected frequency.

Nevertheless, such extensive degenerative changes as were

1 Read at the June meeting of the Manhattan Medical and Surgical Society.
found in the case presently to be described must be quite rare in infants, for the simple reason that the factor of time is lacking for the development of these essentially chronic lesions. I make this statement not only in justification of the publication of this case, but also because contrary views have been expressed by some writers, and notably by Hüttenbrenner.¹

From my own experience, which is a fairly large one, I am led to fully agree with Monti,² who says that Hüttenbrenner's opinion, in the absence of confirmatory statistics, is not entitled to acceptance.

Lizzie N., aged two years, came under observation in October, 1888. The child appeared to be rather delicate, having a pasty look, flabby muscles, and a distended belly suggestive of rickets. The country air, a nutritious diet, the use of cod-liver oil and iron, appeared to effect a change for the better. She improved to such an extent that no particular attention was paid to her

¹ "Lehrbuch der Kinderheilkunde."
until April of this year. Then it was noticed that she became fretful, irritable, restless at night, and inclined to drowse in the daytime. Vomiting soon occurred once or twice every day, but the movements remained normal. The pulse and respiration showed no departure from the standard of health, but the child failed visibly and became rather emaciated.

A careful physical examination of the abdomen gave no clue to the causation of the vomiting, which was in no way influenced either by changes in her diet or the various remedies employed to check it.

Straining and retching now always occurred after food was taken, although stimulants were sometimes retained.

The vomiting was quite uncontrollable, and even the attempt to feed the child exclusively per rectum did not entirely check it.

On April 30th slight mucous diarrhea was noticed, and the rectal feeding was discontinued after May 1st. The irritability and vomiting continued, emaciation increased, and on May 8th the child died quietly, the temperature having for the first time throughout the course of the disease risen above the normal. At 2 p.m. the thermometer marked 102.4° F., at 5.30 p.m. it had risen to 104.6° F., and at 6 p.m. the child died.

Rigors, spasms, convulsions, or deep coma had not developed, and a diagnosis of kidney disease was not made during the lifetime of the patient. It may also be mentioned that mercurial inunc-
tions were employed a few days before death, with the idea that they could not be harmful, and that the wasting of undemonstrable syphilis might possibly account for the rapidly progressive malnutrition. No effect whatever was produced by the mercurial.

At the autopsy the following observations were made: The body was very pale and much, though not extremely, emaciated. The lungs showed moderate hypostatic congestion, with incipient pneumonia posteriorly on the left side. The base of the right lung was rather firmly adherent to the diaphragm.

The heart was small and bloodless, but otherwise normal.

There was no fluid in the abdominal cavity. The spleen was very small, pale, and flabby.

The stomach was large, its mucous membrane somewhat thickened and presenting numerous superficial ecchymoses. The intestines were pale, except in a few places where small areas of congestion of the mucosa were seen.

The liver was large, succulent, and friable. Numerous pale yellowish islands indicated disseminated fatty changes.

The condition of the urinary organs merits a more detailed description. The left kidney was small and flat (see Fig. 1). Externally it appeared lobulated, but the lobules were much larger than those of ordinary granular kidneys. The capsule was adherent in places. On section, turbid urine mixed with pus and mucus flowed out. The renal pelvis was much distended, and the calices were converted into a series of large and deep intercommunicating pockets. But little remained of the proper structure of the kidney. The medullary and interpyramidal portions were almost entirely destroyed. The narrow remnant of cortical substance was in a condition of infiltration and degeneration, such as is seen in adult "surgical kidney." Phosphatic deposits or concretions were not found in this organ. The right kidney (Fig. 2) was about twice the size of the left one, and its thickness was more than double that of the other. The surface was also lobulated, but the capsule was less firmly adherent. The pelvis was enormously distended, and a series of pouches extended deeply into the renal substance. The latter was less profoundly altered than the other kidney. Still, most of the pyramids appeared to be transformed into a semi-translucent, yellowish, gelatinous substance, with no trace of renal structure visible. Although the mucous lining of the pelvis and calices showed numerous ecchymoses, concretions or "sand" were nowhere discoverable.

Both ureters were enlarged and thickened, but showed no other abnormality.

The bladder contained about two ounces of turbid urine, with flakes and shreds of stringy pus and mucus. The organ was very much enlarged and its walls greatly hypertrophied. At the neck of the bladder this hypertrophy was so enormous as to suggest the presence of a neoplasm. The urethra was narrow but quite
pervious, and an obstacle to the outflow of the urine was nowhere to be seen. No congenital malformation was found, and altogether the etiology of the case has remained obscure to me.

It seems to me idle to speculate upon the possible causation of the advanced processes of degeneration here encountered. Perhaps the hypertrophy of the bladder should be regarded an idopathic one in the absence of a demonstrable exciting cause. The pyelitis and pyelo-nephritis would then be secondary to the vesical trouble, and, looked at in this way, the case is not entirely unintelligible. The rarity of such an occurrence in a female infant will, I believe, be admitted even by those whose experience is much larger than my own.

712 Madison Avenue.

IN MEMORIAM.

JAMES BRADBIDGE HUNTER, M.D.

Dr. James B. Hunter, who died June 10th, 1889, in the fifty-third year of his age, was born in Geneva, N. Y., in 1837. He served in the Union army during the war, first as lieutenant of an Ohio regiment, and subsequently on the medical staff of the Sixtieth Indiana; in the latter capacity he was with Grant at Vicksburg. At the close of the war he entered the College of Physicians and Surgeons of New York, from which institution he graduated in 1866. After a course of study abroad, he returned to this city and became one of the early internees of the Woman's Hospital, with which he continued to be actively associated until the time of his death, holding the position of assistant surgeon from 1871 till 1878, when he was appointed attending surgeon. Dr. Hunter gave his best energies to the Woman's Hospital, and reflected no less lustre upon that honored institution than he derived from his connection with it. Even the claims of a large and important private practice were considered as secondary to those of the hospital. The great clinical advantages which he enjoyed were so fully improved that he quickly ripened into an accomplished diag-
nostician and surgeon. While his ideas were naturally moulded by those of the distinguished teachers with whom he was associated, he was eminently progressive and was wedded to no outworn theories. He was willing to learn even from those who were many years his junior, and was ever ready to adopt the new, which he had carefully proven and found superior to the old. This disposition made Dr. Hunter a growing man and one whose opinion was always received with respect.

He was identified not only with the Woman's Hospital, but with the New York Cancer Hospital, of which he was one of the founders and the senior surgeon. He was President of the New York Polyclinic and occupied the chair of gynecology in that institution. As consulting surgeon to the Woman's Infirmary he rendered efficient service by his counsel and surgical skill.

His was a life of ceaseless activity; rest with him meant only change of occupation. At an age when most men are content to devote less attention to hospital work, he was still as tireless and enthusiastic as when he first entered upon his professional career. The judgment of his associates will not pronounce him a brilliant man, but, better far, a thoroughly earnest and conscientious one. He was seen at his best at the operating table. The most captious critic was obliged to admit that his technique was faultless. He excelled in plastic work, but as a laparatomist his absolute coolness, neatness, and attention to details were unsurpassed. Many surgeons have shown more pretentious statistics, but few have ever operated with less regard for effect and more consideration to the weal of the patient.

As a diagnostician he possessed in a high degree the tactus eruditus, derived from an exceptional experience wisely improved. He made no "snap" diagnosis, neither did he hesitate to express doubt when he felt it. His opinion, when delivered, was brief and to the point; it never failed to convince. As a consultant he was free from that narrowness which is too often the opprobrium of the specialist; the long and successful practice of general medicine had fitted him to view disease broadly, and not through the medium of the pelvic organs alone. As a public speaker Dr. Hunter did not appear at his best, since his modesty and his desire to avoid notoriety led him to be exceedingly concise in his remarks.
He usually condensed within a few sentences his experience on the subject under discussion, when a more superficial or more verbose man would have made a lengthy harangue. Of his successful cases he said little, carefully refraining from attributing success to his own skill. As a teacher Dr. Hunter did not aim at oratorical effect. His style was terse, his teaching eminently practical. It was remarked that his careful statements were more convincing than the brilliant periods of those who spoke from books rather than from personal experience.

During his early professional career, Dr. Hunter’s tastes seemed to be purely literary. He devoted a large proportion of his time to the editorial work of the New York Medical Journal, which flourished under his management. As his practice increased, he was obliged to limit his literary labors—a fact which he always regretted. His contributions to current medical literature were short and unpretentious, but they were widely read. Their attractiveness lay not in their brilliancy of style, but in their sincerity and freedom from unsupported statements. The writer’s ideas were expressed in the fewest possible words. Among his most important papers on special subjects were the following: “Endometritis Fungosa,” “Mural Abscesses following Laparotomy,” “Persistent Pain after Laparotomy,” “Pregnancy as a Complication of Pelvic Disease,” “The Technique of Vaginal Hysterectomy,” and “Series of Fifty Cases of Abdominal Section” (two papers). A paper on Two Hundred and Fifty Cases of Laparotomy was in course of preparation. He had been engaged for several years previous to his death in the composition of a manual of operative gynecology, a work which would have been peculiarly valuable as representing the results of his enormous experience in this branch of surgery.

Personally Dr. Hunter was reserved and little inclined to confidences. His intimate friends were few, but to these he was most faithful, showing to them occasional glimpses of a warm heart of which the world knew little. The affection and unswerving loyalty of his patients were the best proof of his kindly, sympathetic nature. Sorrow and suffering never appealed to him in vain. The world will never know his carefully concealed charities. Some of the most sincere and touching expressions of grief at his death came from poor patients.
In Memoriam.

whom he had in secret befriended. If ever a man may be said in the best sense to have lived a "double life," we may thus characterize the career of this earnest and useful physician. The fragrance of his good deeds will outlast the reputation of the distinguished surgeon.

Thus ends a busy, many-sided life, a career not brilliant and comet-like, but steady, progressive, broadening with every year. Constant, unflagging devotion to duty marked its beginning and its end. Such a life is an inspiration in this age of rapid, inexplicable success, too often followed by as sudden failure. There was nothing phenomenal in Dr. Hunter's success; it was the inevitable result of power constantly applied to one end.

A stone drops into the swiftly flowing stream, and its ripple is buried by the hurrying waves. A good man dies, and his name is apparently swallowed up in the onward rush of time; but, as with our dear friend, we feel the inspiration of his life long after he has passed into the silent land.

H. C. Coe.

The following resolutions were adopted by the New York Obstetrical Society:

Whereas, It has pleased Almighty God, in His infinite wisdom, to remove from our midst our friend and colleague, James Bradbridge Hunter, in the prime of his life and in the morning of his usefulness; therefore, be it

Resolved, That while we bow in submission before His supreme will, we recognize in His fiat the loss of one beloved and honored by us all for his gentle virtues and manly qualities; of one who will long be regretted, and whose place will forever remain unfilled amongst us.

Resolved, That in his removal the entire profession of medicine in America suffers a loss which cannot fail to be appreciated by all connected with it.

Resolved, That the kind sympathy of this Society, for which he has done so much, and its sincere condolence be tendered to his bereaved family, and that it cause a copy of these resolutions to be spread upon its minutes, published in several of the daily and medical journals of the city, and transmitted to his immediate relatives.

T. Gaillard Thomas, M.D.,
Clement Cleveland, M.D.,
Henry Clark Coe, M.D.
The medical profession has sustained a severe loss in the death of August Breisky, the genial, talented, and industrious professor of obstetrics and gynecology at the University of Vienna. He had been ailing for several years, but had manfully continued his work until compelled to relinquish it during the past winter.

Breisky was born at Klattau, in Bohemia, studied medicine at Prague, and graduated in his twenty-third year. After serving as assistant to the chair of pathological anatomy for a time, he assumed a similar relation to the obstetrical clinic under Professor Seyffert (who, by the way, advocated the saline diarrhea treatment for puerperal fever—that is, septicemia—as long ago as 1860; his theory was ridiculed at the time, but is now proven to be well founded, at least in the similar condition following laparatomy). In 1865 Breisky published his first important work, on "The Influence of Kyphosis on the Formation of the Pelvis." In 1866 he was called to the chair of obstetrics at Salzburg, and a year later to that of Berne, where he remained seven years, leaving to follow a call to the same chair at the German Faculty of the University of Prague. While here he superintended the building of the new Maternity and wrote his well-known book on "Diseases of the Vagina" (translated into English and published in 1887 by Messrs. Wood & Co. as part of the "Encyclopedia of Obstetrics and Gynecology"), and a number of articles on myomotomy, Porro's operation, pelvic measurement, kraurosis (a peculiar form of dermatitis) vulvae, etc. On the death of Spiegelberg, in 1881, he declined a call to Breslau, receiving from his students and the city of Prague an enthusiastic ovation for his decision to remain with them. In 1886, on the retirement, by age and infirmity, of Professor Spaeth, Breisky was called to his chair, the so-called Second Obstetrical Clinic, at the University of Vienna. He lived but a short time to utilize the large material now at his disposal, and was suddenly seized during a myomotomy with the symptoms of his fatal malady, the nature of which, curious to say, the notices of his death in the Vienna papers fail to mention.

Breisky was a hard worker, a conscientious, excessively pains-
talking, if not a brilliant operator, and a peculiarly genial and kindly man. The writer of this sketch well remembers the hearty, frank cordiality, the winning smile, and the warm grasp of the hand with which he was greeted by Breisky at their first meeting in the wards of Tarnier's clinic at Paris, in July, 1881. His manner was such as to attract me at once, and to place me, the younger man, without an effort, on a footing of equality and good-fellowship. And the pleasant evening and Sunday spent at Boulogne with Tarnier, Breisky, Budin, Ribémont, and Bar, on our way to the Congress in London, will ever remain fresh in my mind; the droll humor and bonhomnie of Tarnier, the gentle, kindly smile of Breisky, the earnest, serious, but thoroughly attractive conversation of my dear friend Budin, the pleasant camaraderie of Ribémont and Bar, appear before me as though it were but yesterday. Breisky was the first of that jolly party to give up the fight. Who will be the next?

Men who combine the scientific qualities which make a teacher and practitioner of medicine of the highest order, with the amiability, truthfulness, and utter absence of malice toward their fellow-men, as did Breisky, are hard to find and still harder to replace.

P. F. M.

THE AMERICAN MEDICAL ASSOCIATION.—PROCEEDINGS OF THE SECTION OF OBSTETRICS AND GYNECOLOGY.

Fortieth Annual Meeting, held in Newport, R. I., June 25th, 26th, 27th, and 28th, 1889.

(Abstract.)

First Day—Tuesday, June 25th.

The Section was called to order by the Chairman, Dr. Wm. H. Wathen, of Louisville, Ky., at 3 o'clock p.m. By vote of the Section, the reading of the Chairman's annual address was postponed until Wednesday, June 26th.

The first paper was then read by Dr. Horatio R. Storer, of Newport, R. I., entitled

THE MEDALS OF BENJAMIN RUSH, OBSTETRICIAN.

In bringing before the Section photographs, from his collection, of two very rare medals of Dr. Rush that were struck at the U. S. Mint
in 1808, several years before his death, and which must therefore give
his true likeness, since Dr. Rush was then Treasurer of the Mint, and
will therefore be of valuable assistance when the monument to his
memory which the Association has undertaken comes to be built,
Dr. Storer presented much valuable evidence from Rush's works of
his knowledge and ability as an obstetrician, in particular quoting
one passage wherein Rush distinctly foretold and dwelt upon the
supreme importance of the induction of artificial anesthesia during
labor, declaring that, while sensibility should be temporarily an-
nulled, the irritability and contractile power of the uterine nerves
should remain unaffected. The quotation referred to is a most ex-
traordinary one, and proves that Rush anticipated by fifty years the
great discovery. It seems to have escaped the notice of all writers
save Channing, Gaillard Thomas, and Faget of New Orleans, and
its recall at the present moment may assist toward placing Rush
upon the high eminence in professional estimation which, as an ob-
stetrician no less than as a general practitioner and a sanitarian, he
in reality should occupy.

The second paper was by Dr. W. W. Potter, of Buffalo, N. Y.,
entitled

NOTE ON SOME GYNECIC USES OF BORIC ACID.

A résumé of personal experiences with the drug was given, in
which it was ascertained by the author that boric acid is a most ex-
cellent substitute for iodoform for many purposes for which the lat-
ter drug is frequently employed. It is chemically suited to neutral-
ize the acrid secretions of the uterus and vagina that irritate the
genital tract, and which sometimes cause sterility by destroying the
fecundating power of the spermatozoa.

Through its free use in the vagina, it contributes to the better
management of uterine and ovarian displacements by vaginal tam-
ponnement, permitting the retention of the tampon for a week or
more without putrescence; for similar reasons it makes the V. tam-
ponnement a more potent agent in the treatment of pelvic inflam-
atory residues. Through its agency the manipulations of the gen-
ital tract become less frequently necessary, because of the more
lasting antiseptic properties of this drug, and because of the odorless,
stainless, and non-irritating qualities.

After plastic operations in the genital tract, it may be used freely
in the vagina, and with boric cotton furnishes a suitable antiseptic
dressing to guard the lines of coaptation from the secretions that may
interfere with perfect primary union.

Dr. Henry O. Marcy, of Boston, Mass., read a paper on
CHRONIC INVERSION OF THE UTERUS,
with the demonstration of a new method for its cure. After sketch-
ing somewhat briefly the history of chronic inversion of the uterus
and its etiology, Dr. Marcy entered more fully into the pathological
changes that ensue. These were illustrated by a considerable num-
ber of large crayon sketches, from the monographs of Crosse of more than half a century ago, from McClintock, Martin, Barnes, and others. Until 1858, when the late Dr. James P. White, of Buffalo, first published his monograph upon chronic inversion of the uterus and its reposition by continuous elastic pressure combined with taxis, no systematic effort for the cure of this distressing accident had been advocated. Although cases of reposition were on record, the profession had considered them as accidental curiosities. The methods of Tyler Smith, Wing, Barnes, Thomas, and Aveling, of reduction by continued elastic force, were analyzed, and shown, in the opinion of the writer, to be at the most modifications of Dr. White's original method, and often of doubtful value, no new principle being involved. Undoubtedly to Dr. White and to America should be accredited the modern operation by which, at the least, a large proportion of cases of chronic inversion of the uterus can be safely restored, giving to the patient original health and vigor.

Dr. Marcy somewhat critically reviewed the experience of Dr. Thomas and his followers in first performing laparatomy, in order to dilate the cervical constriction and thus aid in the reposition of the organ. This he admired as an evidence of the brilliant originality and fertile genius of this distinguished author, yet he could not help doubting if it was based upon sound mechanical and physiological law. This seemed especially to be called in question by the analysis of the recent experiences of Dr. Mundé, of New York, where, after repeated dilatation to the uttermost through an abdominal incision, the cervical closure immediately followed like the grip of a vise, which rendered every effort at reposition abortive. Again, although no harm is reported to have been occasioned by the severe pressure to which the Fallopian tubes are necessarily subjected, or mention made of the same by any author, it seems hardly possible that these important organs can escape serious damage by such manipulation.

Twelve years ago, after a careful study of the subject, Dr. Marcy believed that all the above methods were essentially faulty, in that the fixation of the counter-opposing force was uncertain and doubtful. By the method of Dr. White, counter-pressure over the abdomen was, in a measure, relied upon; but the methods of all the other authors for the application of continuous elastic force, often applied for days together, was only the vaginal attachment of the cervix and pressure upon the neighboring organs. It seemed to him both simple and rational to utilize a single force in the power applied at the same time continuously upon both cervix and fundus, and in this way to convert the constricting force into a power to aid still further in its reduction. To this end he passed long ligatures of coarse silk deeply through the cervical tissues, which he determined were possessed of ample resisting power. The perfected instrument for the reduction of the inverted uterus which was exhibited by Dr. Marcy seemed simple and yet possessed of suffi-
cient power. The distal end consists of a cup-shaped extremity for the reception of the fundus. The deep cervical ligatures, four in number, are attached to a movable sleeve adjusted upon the shaft of the instrument. By means of a screw in the handle, pressure is brought to bear upon a concealed spring, and the force applied is at once determined upon a graduated scale showing the amount of pressure. Dr. Marcy had but one case to report, which came under his observation within the year. Three months after delivery a pro-
longed effort by taxis proved availing. By the method above described, Dr. Marcy completely restored the uterus in twenty-six minutes under a maximum force of eight pounds. The sutures were easy of application; they held perfectly, and the operation was con-
ducted throughout under irrigation, and afterward the vagina was lightly tamponed with iodoform wool. Recovery was rapid, and the patient is now well.

DR. WILLIAM T. LUSK, of New York, said that cases of inversion of the uterus were fortunately rare, and that his own personal ex-
perience with the accident had been limited to a single case. After manipulating to restore it for an hour and a half, he became so fatigued that he invited an assistant to continue the work, when it very soon went to its place. In describing the various methods recommended to effect reposition, he referred particularly to that where it had been suggested to introduce two fingers of one hand into the rectum, and two of the other into the bladder, to catch hold of the ring, and then with the thumbs to push the fundus through the dilated ring; stating that, though this read well in the books, it was very difficult to practise. Alluding to the difficulties of diagnosis, he said that more mistakes had been made in this than in almost any other condition of similar import with which he was acquainted. He spoke of abdominal incision as a useful method of diagnosis in doubtfull cases, and thought the method recommended by Dr. Marcy certainly promised well, and he should use his instrument if opportu-

nity should present.

DR. CLEMENT CLEVELAND, of New York, said that his experience was also limited to a single case in a service of fifteen years in the Woman's Hospital. In this half a dozen attempts at diagnosis had been made, when finally the operator had the courage to remove a fibroid, which revealed the true condition. Dr. Marcy's instrument appealed to his judgment so strongly as a useful one that he should try it at the first opportunity.

DR. JOSEPH PRICE, of Philadelphia, read a paper entitled

A SERIES OF FIVE HUNDRED CONFINEMENTS IN A MATERNITY.

The series extended nearly to six hundred cases before a death. This death was due to eclampsia, the woman having had several previous attacks. The series embraced numerous cases of abnormal labor, among others the delivery of a dwarf with ankylosis of the hip-joints. The manipulation of the patients is antiseptic to the highest degree. Before entering the delivery room the patient re-

ceives a bath, and the vagina is washed out with a bichloride solu-
tion, 1 : 3,000, just at the beginning of labor. After-labor pads of
antiseptic jute are applied to the vulva, first cleansing the parts with the mercuric solution. The woman is then removed to the lying-in ward, where she remains for ten days, and thence goes to the convalescent ward, where she remains until finally discharged. The pads are changed every six hours and burned. No wash-rags, sponges, or cotton are allowed in the house, the jute serving all the purposes for which these are generally used. The sanitary condition of the house is as near perfect as can be made; the hospital portion is shut off from the closets and bath-rooms, which latter are in towers adjoining the building, communicating with it by corridors. The corridors are wide and so arranged that the air is being constantly changed, and the ventilation is as perfect as can be made.

Dr. Thomas Opie, of Baltimore, said he had visited the Preston Retreat, to which the paper referred, and considered it a model maternity, and as near perfect in its sanitary conditions as it is possible for skill and science to arrange. He could readily understand how such a maternity excels the records of private obstetrical practice in its results.

Dr. Price, in closing, wished to refer to an important point in the sanitary arrangement of the Retreat: he considered the removal of the closets from the house as the all-important factor in contributing to the results obtained, for as soon as the plumbing was isolated in the towers the temperature charts became normal in their showing, and now it is the rarest thing for them to go above it. In an extensive out-practice in the alleys and courts of Philadelphia, he observed that high temperatures were present, not where the room was filthy, but where the closets were in the houses; the febrile disturbance almost invariably occurring in the better classes of patients, and not in the poorer.

Dr. Henry D. Fry, of Washington, D. C., read a paper entitled THE APPLICATION OF FORCEPS TO TRANSVERSE AND OBLIQUE POSITIONS OF THE HEAD—DESCRIPTION OF NEW FORCEPS.

Varied as are the designs of the obstetric forceps, the method of employing them is as little fixed as the instrument itself. This lack of uniformity proves the non-existence of a scientific basis.

In France, the blades of the forceps are usually applied to the sides of the child’s head; in England, Austria, and Germany, to the sides of the mother’s pelvis. No single doctrine is so exclusively accepted as to make the practice of that country uniform.

To obtain the views of the profession of this country, circular letters were sent to all teachers of obstetrics and to numerous practitioners located in every State in the Union. Eighty-two replies were received, with result as follows: forty-two always adapt the blades to the sides of the head when possible; thirty-one always apply the blades to the sides of the pelvis; nine recognize no rule and employ both methods. Some who follow the first practice apply the blades to the sides of the pelvis when the head is high, and, after bringing the part down, remove and reapply the instrument to the sides of the head. Others try to rectify oblique and transverse positions before applying forceps. On the other hand, some who follow the method of applying the
blades to the sides of the pelvis recognize circumstances that induce them to adapt the blades to the sides of the head.

The chief objection made against the bi-parietal application is the difficulty, and oftentimes impossibility, of accomplishing it. The difficulty arises in high situations of the head when occupying an oblique position, and in transverse positions of the head, whether at the brim or in the cavity.

Transverse positions of the head offer special difficulties. The most aimed at in these cases is to locate the instrument in one or other oblique diameter of the pelvis. Many obstetric writers claim that these positions are rare. The author maintains that they occur not infrequently, and in support of his position quotes Cazeaux, Charpentier, Mme. Lachappelle, Baudelocque, Moriceau, Poullet, Ramsbotham, and Spiegelberg.

Minor degrees of pelvic contraction or disproportionately large fetal heads are casual agents of transverse positions at the brim, and the opposite conditions, a roomy pelvis or small head, produce and maintain the same positions in the excavation.

The difficulties met with in applying forceps to the bi-parietal diameter of the head when oblique or transverse are due to lack of a proper instrument. Forceps with the usual pelvic curve placed in the edge are valueless. Only when applied laterally, with the concave edge forward, does the pelvic curve of the instrument conform to the axis of the pelvic canal.

If turned to one side or the other for the purpose of grasping the sides of the head, the pelvic curve of the blade departs from the line of the pelvic axis, and the tip of the anterior blade is projected backwards.

To overcome these disadvantages, Dr. Fry designed forceps with the pelvic curve on the flat surface (antero-posterior). With such an instrument the head can be seized in its bi-parietal diameter, whether high or low, and whether placed obliquely or transversely. These forceps are useful in labor obstructed by diminished conjugate, as the ability to compress the bi-parietal diameter of the head more than compensates for the space occupied by the blades. With this instrument a child at full term and weighing six and one-half pounds was delivered through a conjugate of two and three-quarter inches. The use of the forceps, however, is not restricted to labor in flat pelvis, but to all cases in which, from failure to rotate, the head is oblique or transverse.

A compression screw is attached to the instrument for use when axis traction is desirable by means of the rod. The latter is hooked into the fenestrum on the anterior blade, and is superior to other methods, because traction can be made downwards and backwards, from behind the symphysis, parallel to the axis of the inlet. These forceps are not intended for universal application, but only for the cases for which they are especially designed. They will be found suitable for all high operations.
Proceedings of the

The obstetrician should not be limited to the employment of one instrument, but should be expert with several and select the one suitable for each case. The advice of some eminent authorities (Simpson, Playfair, Leishman), that one pair of forceps should be made to answer for all this class of work, has had and still has its evil influence.

From information derived by circular letters it was ascertained that 30 obstetricians employed but one variety of forceps, 53 used different varieties, and 30 of the latter recognized the value of axis traction in high operations, and 11 used short forceps in low positions.

According to the views expressed, the only conditions generally recognized for selecting the different varieties of forceps were:

First. The high or low situation of the head.
Second. The compressive power of the instrument.

Accepting the opinion of the majority of replies expressed by the circular letters regarding the advisability of applying the blades to the sides of the head when possible, and recognizing the difficulties in the way of accomplishing it in many cases, a third indication advanced is the oblique and transverse positions of the head, for which, and to overcome the difficulties mentioned, is submitted the antero-posterior forceps curved in the flat.

Dr. Wm. S. Stewart, of Philadelphia, then read a paper entitled

WHEN SHOULD THE OBSTETRIC FORCEPS BE USED? AND WHAT FORM OF INSTRUMENT IS REQUIRED?

The indications for the use of the obstetric forceps he classified as follows:

First. Where speedy delivery is necessary in the interest of either mother or child, as in eclampsia, hemorrhage, exhaustion, prolapse of the cord, etc.
Second. Where the ordinary forces of labor are insufficient to overcome the obstacles to delivery, as in narrowing or partial obstruction of the birth canal within certain limits, uterine inertia, large fetal head, malpositions, and where the head is engaged in the pelvis and there has been no advance for some time, the "rebound" during the interval between the diminishing pains having ceased.

In addition it is of importance in all cases, before applying the forceps, to be assured of the existence of the following conditions:

First. That the membranes are ruptured.
Second. That there is complete dilatation of the os and retraction of the cervix.

Third. Knowledge of the position of the presenting part.
Fourth. Emptiness of the bladder and bowel.

He next asked the following question: What form of obstetric forceps should be employed? and presented, by way of answer, forceps that he had devised which worked by parallel instead of cross handles. (For description and illustration of this instrument,

In twenty-six (26) cases, all of which undoubtedly required instrumental delivery, he had used these forceps with results which were indeed surprises, both on account of the facility with which they were applied—either blade first—the slight amount of traction required in all of the cases, and the entire absence of any disfigurement to the children or evidences that in a single instance the compression had been too great.

It was his conviction that when the obstetric forceps are required, the use of this instrument will be attended with fewer risks to the mother, greater safety to the child, and much less difficulty and anxiety to the accoucheur.

DR. THEOPHILUS PARVIN, of Philadelphia, said that the forceps presented and described by Dr. Fry are the revival of an old device, and he presumed the time would come when some one would revive Dr. Fry's instrument. He considered its range of application narrow, and questioned its necessity. As to its claim as an axis-traction forceps, its principles were at variance with those recognized as a requisite in such an instrument. The traction attachment pulled on one side only, which was like drawing a wagon by one shaft.

Dr. Stewart's instrument he considered complicated, awkward to use, and an unnecessary addition to the armentarium of the obstetrician. The power applied was so far from the point of resistance as to interfere with the delicacy of its operation. The handle of the ordinary instrument was better adapted to traction than that of Dr. Stewart.

DR. JOSEPH PRICE considered Dr. Fry's forceps a dangerous instrument, having no claim to axis traction. Smith's or the earlier method accomplished axis traction much better than this one, as it was nothing more than a vectis—even more dangerous by the presence of two blades, a long and a short one.

DR. JOSEPH HOFFMAN, of Philadelphia, regretted, in discussing the forceps presented by Dr. Fry, that a pair of true axis-traction forceps were not present. It could then be easily seen that Dr. Fry's instrument wholly failed in any claim for axis traction. Three requirements must be fulfilled in order for such claim to be substantiated: First, the traction rod of whatever device must be applied at the centre of the blade; second, the force must be applied as near as possible to the child's head; third, the traction must be made in the pelvic axis. In every one of these three requirements these forceps fail. As Prof. Parvin aptly illustrates, this attempt here at axis traction is that of pulling a wagon by one shaft.

Whatever else the instrument is, it is not an axis-traction forceps.

As to Dr. Stewart's instrument, it has no claim to axis traction whatever. The complicated device to prevent dangerous compression of the child's head is useless, because it does not at all modify the compressive power of the instrument by any direct force applied. The complication is one without advantage, and therefore objectionable.

DR. JOSEPH TABER JOHNSON, of Washington, said that Dr. Fry's paper opened up a subject in regard to the forceps that he thought
nearly or quite settled; but since hearing it he thought there might be something in his method, and would try the instrument should opportunity present. And so with Dr. Stewart's forceps, which he would also obtain whenever they were in the market.

Dr. Fry and Stewart closed the discussion in defence of their instruments, making substantially the same claims for them as in the text of their papers respectively.

Dr. Thomas Opie, of Baltimore, Md., read a paper entitled

**THE KINSHIP BETWEEN OBSTETRICS AND GYNECOLOGY.**

He said: The close relationship between these two branches of medicine is so well known and so generally accepted that it would seem at first glance a waste of words and time to discuss the subject.

There are, however, among gynecologists some who look disdainfully upon obstetrics and aspire to be classed with the general surgeon.

The disputes over the border line of abdominal surgery, the claim of mammary-gland diseases by the general surgeon, and the covetous yet astigmatic eye with which he views the promised land of gynecology, have induced me to ask of the Section a brief yet patient hearing.

Biblical history proves that midwives were employed as aids in labor fifteen hundred years before the Christian era.

Probably from the foundation of the world up to the invention of the obstetric forceps, illiterate women maintained an exclusive dominance over the field of midwifery. The male surgeon was called, perchance, when the laboring woman was in extremis, for the purpose of forcibly removing the child which was threatening the life of the mother.

Obstetrics, thus rude and humble in origin, groped along for centuries. About four hundred years before Christ three books improperly imputed to Hippocrates appeared, viz.: "The Nature of Woman," "The Diseases of Women," "On Superfetation." Here we find conclusive evidence of the early association and close study if not the practice of obstetrics and gynecology.

It is noteworthy that from time immemorial the invention of instruments has exercised, both in medicine and surgery, a potential influence for advancement and success. The Arabians used instruments which corresponded with our obstetric forceps and gynecological speculum.

The first faint glimmer of light which, for our guidance, broke through the blind darkness of midwifery, was when surgery conservatively offered the vectis through Roonhuysen. The obstetric forceps now generally used were then half-discovered, and about the year 1700 entered upon their life-saving mission.

This God-given instrument has been a pivotal influence. By it a new force and inspiration were aroused. At its hands the full equipment of the surgeon-craniotomist received a deadly blow.

Gynecology furnishes no less striking an illustration in the inven-
tion of that God-inspired surgeon, Sims. The speculum of our day is the very foundation stone of gynecological surgery. It has opened up a relatively new field and thrown a flood tide of light on the dark corners of the reproductive organs.

Obstetrics and gynecology, ancient alike in their birth and practice, have alike realized the fickle fortune of advance and retrogression. The insuperable obstacles to obstetric advance have impeded gynecological development. Gynecology is a supplement to obstetrics. It is by far the greatest part of obstetric surgery. Their adoption is tried, they are bound together by hooks, specula, and forceps of steel. They moderate, rectify, and guide each other for the sovereign purposes of cure. The cry started by the surgeon and adopted by the accoucheur has gone down the ranks of the profession, that high death rate implies, unqualifiedly, putrescence, filth—filth of the doctor, filth of the nurse, filth of the intruding visitor, filthy raiment, filthy atmosphere, the personal filth of the patient.

Not many years ago the popular judgment was that lying-in asylums should be abolished; now the managers of these institutions challenge the private practitioner to produce statistics equally as good as theirs.

Special gynecological hospitals show far better statistics nowadays than general hospitals or private homes. The introduction of antiseptics has reduced the fatality in gynecology and obstetrics in every land.

The civilized and the uncivilized world alike have been barriers to the deliverance of woman from the thraldom of diseases peculiar to her sex. To-day the specious plea of modesty still stays the hand of the helper and places barriers in the onward march of a noble calling.

The laws of the Mahomedans forbade the examination of women by men, and thus prevented progress in gynecology and obstetrics. Out of a supposed regard for the modesty of female patients, the Board of Governors of the Woman's Hospital in the City of New York, in 1874, made a regulation limiting the number of visitors to any clinic in that institution to fifteen, and thus occasioned the resignation of the founder, Dr. J. Marion Sims.

Sims was world-renowned; he not only organized and moved an ambulance corps in the Franco-Prussian war, but by his originality, suggestiveness, and force aroused and inspired medical science throughout Europe. In his fertile brain originated the paragon suggestion of the present century as to abdominal surgery. He reasoned that gunshot wounds of the abdomen admitted of easy drainage in proportion to their proximity to the pelvis. He suggested, in connection with the case of the lamented President Garfield, that abdominal drainage might have served a good purpose. He was a great obstetric surgeon—ay, more, the leading gynecologist of his day. He transcended general surgery, and the living world sat at the feet of his genius.
The definition of obstetrical given by the most popular medical author and teacher of obstetrics and diseases of women in this country twenty-five years ago, Professor Chas. D. Meigs, may be accepted as a faithful reflex of the status of these branches at that time. He says: "Obstetrics is the science of woman's nature, diseases, and accidents, and is a copious and comprehensive science, while midwifery is the art of assisting women in labor and guiding their conduct throughout the following confinement."

I mention this definition of obstetrics to show that twenty years ago these two branches were in a state of unification and were taught in every school throughout the world by the same professor.

In the large majority of medical schools at this time, these two branches have been divided, in order that they might both be taught more thoroughly and studied with the closeness their increasing importance demands.

Gynecology has grown out of obstetrics. It is an obstetrical development and supplement. They are now separated, but not divorced.

To be a good gynecologist presupposes a thorough knowledge of obstetrics. To be a well-grounded obstetrician requires considerable knowledge of gynecology.

It has been said, looking at the question from the standpoint of expediency, that the obstetrician as gynecologist covers up his own blunders. So might it be. He should repair them, because his act subserves the noble, humane purpose of cure. He should be able to take the stitch which saves nine. As obstetrician, one is not necessarily disgraced who has perineal tears, though they are in many instances preventable. Every obstetrician in full practice will have them; and if any one denies the charge, it may safely be said of him he does not examine his patients closely after labor.

But few practitioners, after reading the many admirable recent works on gynecology and obstetrics, can decide against the advisability of primary perineorrhaphy. I am aware of but one author, Prof. Charpentier, who advocates the postponement of the operation until after involution is completed. American gynecologists, as a rule, believe that lacerations of the perineum often cause subinvolution; that, when deep ones are neglected, they are very liable to cause physical detriment, neuroses, and possibly marital infidelity.

There are other grounds on which obstetrics and gynecology stand as one and inseparable. Bleeding from a lacerated cervix is first recognizable by the attending obstetrician, and should be stitched by him, not only to stop hemorrhage, but to promote involution and to forestall the ingress of the germs of disease.

The process of evolution, or physiological hypertrophy, having been accomplished during pregnancy, the converse law of physiological atrophy, or involution, must follow. The obstetrician alone has the opportunity, as he has the special training, for the early recognition of subinvolution. Should he fail to acquaint himself
with the pathological state of the organ, the best chance has lapsed—a chronic disorder is the result. It may be the whole system of the reproductive organs is deranged and constitutional impairment ensues. The case, having progressed and intensified, has glided by insensible gradations out of the field of obstetrics and into that of gynecology.

How intricate, and in many cases past comprehension, the mazes of early pregnancy! How stealthily and unexpectedly this condition becomes an element of most serious apprehension and responsibility for the obstetrician and gynecologist alike! The differentiation is an ever-present possibility with both. The pitfall is doubly dangerous since it involves two precious lives. The field is identical; the nicest realizations of digital touch, the cleverest use of the bimanual, a knowledge of the various modes of manual exploration—all concentrate here.

The very nature of the work of the gynecologist seems to demand that he should first be an obstetrician. To know the abnormal or pathological we must be familiar with the normal or physiological. Carrying about with us our mental norm, we can best by comparison with it detect abnormalities.

The diagnosis of displacements and deformities of the uterus, of ovarian and uterine tumors, extra-uterine pregnancy, and many other conditions, the outgrowth of obstetrics, can best be dealt with by the obstetrician. The general surgeon has but little opportunity of obstetric touch, which is the keynote to the solution of most of these problems.

To fully and accurately estimate the local damage done in instrumental labors, to decide upon the possible detriment, immediate or remote, as bearing upon the important duties of mother and wife, demands at our hands as medical custodians the most intent thought, the most scrupulous, conscientious care, the highest order of manly resolution.

What kind of surgeon, then, best subserves our purpose? One who is thoroughly conversant with labor, not only in approved theory, but in a large and varied practical application of it at the bedside. Moreover, he must be familiar with the instruments with which obstetrical injuries are inflicted, both as to their use and abuse.

We are wont to decry the illiterate females who acquired their information by experience. Alas! to-day we much too often find wives and mothers who are in the hands of old women of both sexes.

It cannot be denied that obstetrics and gynecology are interdependent. "United they stand." Like Siamese twins they have stood for ages. To separate them would do injury to both. It would inflict violence on methodized knowledge, which is science.

The general surgeon has from time immemorial scorned the forlorn and uninviting province of obstetrics. He may have viewed with interest the improvements in the obstetric forceps; he has
possibility been eager for the revelations of the speculum. He said not a word when the obstetrician stitched the perineum. When the gynecologist sewed up the lacerated cervix, he was, unmurmuringly, a passive looker-on. But when he ventured further into those sacred precincts, that territorial reserve of the reproductive organs, the abdominal cavity, the unpardonable sin was committed. He could stand it no longer. "'Tis the jingling of the guinea" which is the inspiration of the thought of breaking up the time-honored and natural alliance between gynecology and obstetrics.

In that last great day when all men shall be judged, not before men but before angels, for the deeds done in the body, may we not hope to stand as in life, side by side, and thus cover a multitude of sins—the obstetrician by his record for honest, earnest protest against feticide, and for thus having promulgated the law, "Thou shalt not kill": the gynecologist from the high vantage ground of a ripe experience, for preaching and practising physical redemption in his timely warnings against the crime of conjugal onanism, limitation of families, and sterility?

Second Day—Wednesday, June 28th, 1880.

The Section was called to order at 3 o'clock by the Chairman. The election of Section officers for the ensuing year, provided by the by-laws to be held at this time, resulted as follows:  
Chairman, William Warren Potter, of Buffalo, N. Y. 
Secretary, Joseph Hoffman, of Philadelphia, Pa.

The Chairman, Dr. William H. Wathen, then delivered his address. Subject:

THE PATHOLOGY OF ECTOPIC PREGNANCY, AND PELVIC HEMATOCELE.

The next paper was read by Dr. Theophilus Parvin, of Philadelphia, Pa., entitled

CASUISTRY IN OBSTETRICS.

After defining casuistry as the science of cases, he proceeded to consider the relative importance of various obstetric operations, the ethics of the marital relations during pregnancy, and stated that the progress of science offers new questions in casuistry to the obstetrician, as instanced by the fact that, when the ophthalmologist announces to the obstetrician that he has discovered albuminuric retinitis in a pregnant woman, and that her continued pregnancy is at the peril of her vision, possibly of her life, it originates new problems in practice, and the question is presented as to what he is to do to avert the impending danger.

The subject of craniotomy, that has been and is the subject of so much professional controversy, received attention, and was compared in its value to Cesarean section, to the so-called Porro opera-

1 See this Journal, August number.
tion, and to amputation of the pregnant uterus as advocated by Mr. Tait. He asserted that "destruction of the life of the fetus may be necessary in other pathological conditions besides hydrocephalus; thus there may be ascites preventing delivery, or the child may be a monster." Further, those who justify craniotomy on the living fetus do not all agree as to the pelvic narrowing which forbids it and renders abdominal section imperative.

Three recent successful Cesarean operations in Philadelphia gave promise that the future American statistics of this operation would be much more favorable than they have been. In the choice of operations it was probable that the majority of women would select that which is least perilous to their lives.

He thought it evident that amputation of the pregnant uterus was destined to occupy a more prominent place than it yet had, and that a larger experience with the operation might confirm the position to which Mr. Tait had assigned it.

Closing, he said: "The future will soon answer the question as to whether hysterectomy or hysteroctomy will save the larger number of patients and have a mortality more nearly that of ovariotomy; and by that answer the obstetrician will have a clearer guidance than he now has in one of the most important questions belonging to the casuistry of obstetrics."

Dr. Albert Vander Veer, of Albany, N. Y., then read a paper entitled

CONCEALED PREGNANCY: ITS RELATIONS TO ABDOMINAL SURGERY.

This paper is based upon the study of sixty-eight cases of abdominal section wherein pregnancy existed as an undiagnosticated complication. The observation is made that the most eminent as well as the operator of few opportunities have alike made the same error relative to pregnancy. A diligent effort has been made to obtain the histories of reported cases, the library of the surgeon-general's office has been thoroughly searched, and four hundred circular letters sent to operators at home and abroad. The results of these researches are tabulated, and, although incomplete, contain all accessible literature. Abstracts of ten cases are given, including two personal cases. In all there are twenty-six cases where pregnancy existed with fibroid and no diagnosis was made. The indications for operation were dependent upon a rapid-growing abdominal tumor whose diagnosis was obscured, and the great distress of the patient. In the majority of the cases no symptoms of pregnancy are noted. Rapid growth and changes in the consistency of the tumor were observed in nearly all of the cases, yet pregnancy was not suspected by many operators. Of itself rapid growth as an evidence of pregnancy may be fallacious; it is not universal, and may be dependent upon other conditions (malignancy). Amenorrhea was noted in eleven cases, and with it mammary changes in four; but in earlier months, at least, a flow or actual flooding may con-
tinue and is most frequently the cause of abortion in cases of fibro-
myxoma. The physical signs of pregnancy, prior to the fourth 
month, may be either obscured or concealed by the presence of 
fibro-myxoma. The use of the uterine sound was employed in nearly 
all of the cases, and only served to confirm the fallacious diagnosis. 
Again, the pregnancy may be extra-uterine or in a rudimentary 
horn of a bicornated uterus—other sources of difficulty. I would not 
have it understood that in my opinion the diagnosis of early preg-
nancy, i.e., before the fourth month, as a complication of fibro-
myxoma, is impossible in all cases, but that the diagnosis is at the 
best a matter of presumption, and that it is often impossible when 
immediate operative interference is demanded. In only three cases 
did the error occur after the fifth month. There are nine abdominal 
sections classified where the incision revealed a pregnant uterus 
alone. Five cases occurred early in the history of abdominal sur-
gery, when methods of differential diagnosis were not as well taught 
and practised as now. Hydremia as a complication of pregnancy 
led to abdominal section twice. The cases of Drs. Prince and Varian 
illustrate the utter unreliability and intrigue in the statements of 
ummarried women with abdominal enlargements, whatever be their 
reputations for chastity.

Pregnancy as a complication of ovarian cyst is frequently met with, 
and is not always diagnosed.

In twenty-eight cases collated, no symptoms are noted save in one 
case—amenorrhea. When the slightest suspicion occurs from any 
symptom, the use of the uterine sound is positively contra-indicated, 
as abundant experience has shown we have no right to induce abor-
tion before performing ovariotomy.

From the facts determined we are justified in arriving at these 
conclusions:

I. That from the study of the sixty-eight cases I am convinced 
that the errors of diagnosis are dependent, in a large proportion of 
the cases, upon conditions which make it absolutely impossible, 
when these conditions recur in other cases, to avoid the same diag-
nostic conclusions.

II. That it is the duty of every operator, before making an abdom-
inal incision, to secure, either himself or by a specially qualified 
assistant, a fully classified, written statement of the facts which go 
to make up the clinical history of the case, together with the results 
of the physical exploration made by the operator and his consultants, 
using a formal blank statement (that of Sir Spencer Wells, for 
example), so that no facts may be omitted. That no part of this 
duty should be delegated, except under supervision, to interns of 
hospitals.

III. That the probable diagnosis should be based upon the physical 
signs contained in the notes, corroborated, with few exceptions 
(unmarried and ignorant patients), by the rational signs contained in
the clinical history, and not by simple abdominal palpation and "the dim light of a pelvic examination."

IV. That whenever the slightest probability of pregnancy exists it should be fully explained to the patient and to her friends.

V. That the necessity for operative relief and the consequences of delay or neglect should be carefully stated to the parties interested before their formal consent is obtained to the operation.

VI. That it is the duty of every operator to report fully all such cases, that the methods of diagnosis may be improved, if possible.

VII. That it is the duty of the profession at large to maintain that pregnancy may be absolutely concealed, especially prior to the fourth or fifth month, by other intra-abdominal conditions.

DR. W. H. PARISH, of Philadelphia, Pa., then read a paper on Pelvic Abscess in the Female.

He said: I use the term in its comprehensive sense, as applicable to any accumulation of pus within the pelvis. Exclusive of some abscesses common to both sexes, there are three principal varieties of pelvic abscess in the female: 1st, areolar; 2d, intratubal and ovarian; 3d, intraperitoneal.

Pelvic cellulitis was formerly deemed of frequent occurrence, and areolar abscess was thought to be the most frequent. Abdominal surgery has shown cellulitis to be only occasional, and many cases treated formerly as areolar abscesses were really within either the tube, ovary, or peritoneal cavity. Some operators seem to almost doubt the occurrence of areolar abscess. I have seen a number, some shown to be such after exploratory abdominal section. It arises in acute cellulitis, and usually follows labor or traumatism of the cervix or vagina or external genitals, and is preceded by septic infection of the lymphatics or veins. I have never seen areolar abscess arise from extension of gonorrheal inflammation through the walls of the vagina or uterus. Such abscess may follow suppuration of a pelvic gland as a result of chancroids, or it may develop from a hematoma. Chronic cellulitis exists only as a complication of fistulous tracts or other constantly acting causes. It does not occur as an independent condition. Such has been shown by the surgeon. Intratubal and ovarian abscesses often co-exist. Their frequency has been demonstrated by the abdominal surgeon, though Bernutz and Goupil long ago described them. Intratubal abscess occurs with much greater frequency than the areolar abscess. Sometimes the complications are so great that the operator cannot determine the origin without fatal dissection. Hence it is difficult to arrive at the relative frequency of areolar and tubal abscess. The term pyo-salpinx does not suggest the extent of exudate and adhesions of viscera surrounding the tube. Intratubal abscess is usually dependent on gonorrhea. The gonorrhea may have existed in the male for years, and for weeks or months in the female. The contributing causes are exposure during menstruation, venery, the sound, strong intra-uterine applications,
tents, and operation, as stretching of the cervix or the closure of a cervical laceration. In the latter case the interference with due drainage of the uterus may be the explanation. Septic inflammation is another cause of intratubal and ovarian abscess. But usually the calibre of the tube is probably increased from relaxation of the muscular tissue. After abortion the usual pelvic inflammation is salpingitis and ovaritis. Then intratubal abscess is more frequent than areolar abscess. The latter is more frequent than labor at full term. Intratubal abscess may follow the use of the sound, etc.

It is unwarrantable to await the spontaneous escape of pus. In areolar abscess drainage is the indication. Incision above the pelvis is preferred to vaginal incision, unless the mass is distinctly bulging the vagina.

The drainage should be perfect and constant by the tube and antiseptic irrigation with corrosive sublimate, one in three thousand. Aspiration is liable to cause extension and aggravation of the inflammation. After incision the finger introduced will show a fibrillated inner surface if areolar, and a smooth surface if intratubal. In the latter case collapse of the walls does not occur promptly. Vaginal incision should be preferred to a rectal incision in all cases. An incision above Poupart's ligament should be either over its inner or its outer extremity, and can be made early, keeping external to the peritoneum. Remember the iliac vessels are in the areolar tissue, and the drainage tube must not come in contact with them.

In intratubal abscess, drainage is not so safe nor can a cure be expected. Removal early after abdominal section is the only reliable procedure. Careful toilet of the peritoneum is always necessary, and usually a drainage tube. Mr. Tait, and in this country Drs. Jos. Price, Wylie, and others, have achieved results in these cases highly satisfactory. In some long-neglected and greatly complicated cases, drainage may be indicated as a palliative measure, to be followed, after local and general improvement, by removal. Sometimes, though rarely, drainage alone may cure the case. Recurrence is the rule after mere drainage. Exploratory laparotomy may be necessary to determine the location of the pus, and a second and extra-peritoneal incision will be best if in the areolar tissue. With the finger in the peritoneal cavity the proper point for opening may be ascertained. Intra-peritoneal abscess is not very common. It may follow the leakage of a gonorrhreal or septic tube, or arise from septic inflammation of the lymphatics, or may be due to a foreign body, as a ligature. Laparotomy, with removal of the pus, etc., and of the exciting cause, is the usual indication. I have removed two (2) gallons of pus at one time, through a median incision, with recovery of the patient. Delay in operating permits the danger to become cumulative. Permanent fistulae are usually the result of timidity and inefficiency on the part of the attendant, and can be prevented by early use of the knife.

Dr. Joseph Taber Johnson, of Washington, D. C., read a short paper upon
TETANUS FOLLOWING OVARIOTOMY.

He gave the history of the case upon which the paper is based, and entered upon a brief discussion of the more recent theories in regard to the infectious and contagious nature of the disease.

The patient was a lady, sixty years of age, who had been a sufferer for about a year from pelvic and ovarian pains.

Had been treated for ovaritis and "pelvic cellulitis," with only temporary benefit. Was removed in October last from a hotel to Dr. Johnson's private hospital, where, as the result of a consultation, the pelvic-cellulitis theory was still further treated for two weeks, while the lady was kept absolutely quiet in bed.

Not improving, she readily agreed to his suggestion to open the abdomen and remove the offending mass, if possible. This was done about November 1st, in the presence of Drs. Lincoln, Luce, and Cathbert. The pelvic cellulitis was all removed in the shape of a sarcomatous enlargement of the left ovary, which was thoroughly imbedded in the surrounding tissues and required tedious enucleation. It was as large as a child's head. Hot-water irrigation and a drainage tube arrested the oozing of blood. Convalescence progressed remarkably well for twelve days, wound healing by first intention; no pus about the sutures, which were all removed by the tenth day.

Patient removed to a sofa on the morning of the twelfth day. When put back in bed in the evening, she complained of stiffness and pain in the muscles of the neck and face. By the next morning there was no doubt that she had tetanus. By night her jaws were locked and she had well-marked spasms, amounting frequently to opisthotonos. She died on the fifteenth day after the operation, and the morning of the third day after tetanus developed. No other patients in his hospital then or since have been affected by this disease, and no evidence exists of the transmission of the tetanus poison to this patient. At least seventy-five surgical operations, and many of them abdominal sections, have been performed in this hospital since it was opened in February, 1888, and this is the only case of tetanus, and the only death which has occurred.

The very great rarity of tetanus following ovariotomy was referred to, there being less than a dozen recorded cases within the knowledge of the writer. The danger of carrying the tetanus bacillus was discussed, and also its transmissibility from the horse to man, and from man to man.

Dr. A. Reeves Jackson, of Chicago, read a paper on

INJURIES OF THE BLADDER DURING LAPAROTOMY.

Details more or less complete were given of sixty-seven cases which had been collected by the author from various sources. Some of them had been already published, but the greater number were obtained through personal correspondence with the operators in whose practice the accident happened, and were now made known for the first time. It was well understood that the list was incomplete.
Some surgeons manifest a reluctance to make known the various mishaps which occur in their operative work, in the belief, perhaps, that a knowledge of them might injuriously affect their reputation among their colleagues. The author considered this an error of judgment. Surgeons should be honest as well as skilful, and their integrity would be quite as likely to receive recognition and appreciation as their dexterity, and certainly was of greater value.

Considering the conditions under which bladder injuries may happen during laparotomy, it was not necessarily discreditable to any surgeon to meet with them, for they might not be due to any carelessness or lack of skill on his part. In many of the cases cited, no possible degree of diligence could have averted the accident. Adhesions of the peritoneal surface of the elongated bladder to that of the anterior abdominal wall frequently could not be known in advance, and their existence was only demonstrable after the viscera had been opened. The use of the catheter as a diagnostic means was not always available, because the compression of the bladder against the pubis might prevent the introduction of the instrument beyond that point. Certainly, however, this attempt should always be made in any case of suspected difficulty, and would seem to be even a proper and unobjectionable routine method. Another useful precaution was to avoid prolonging the abdominal incision far down towards the pubic bone until the opening into the peritoneum had permitted the relations of the bladder to be ascertained.

The mortality of the cases in which the bladder had been wounded was large, namely, about thirty per cent; but this was due to the complicated and serious character of the cases in which the accident had occurred, the consequently increased length of the operation, and the greater danger from shock, rather than to the mere vesical injury. The latter, indeed, did not seem of itself to be very important as influencing the recovery of the patient. But, notwithstanding that fact, a urinary fistula added greatly to her discomfort, and, occurring under such circumstances, must be productive of chagrin and annoyance to the surgeon.

Inasmuch as the bladder is recognizable with more difficulty when empty than when full, it would be better, in cases presenting doubtful features, to commence the operation with the viscera wholly or partly distended. When its position has become known after the completion of the abdominal incision, it might be emptied by an assistant.

Treatment.—When it is known at the time of operation that the bladder has been cut or torn, the opening should be at once closed with a continuous suture of catgut or fine silk, applied so as to invert the edges of the wound and bring together the serous surfaces. A permanent catheter ought to be used during the first two days. After the expiration of that time, its constant use was usually unnecessary; and if the wound was small—less than an inch in length—the instrument might be subsequently dispensed with. If, how-
ever, the wound was large—exceeding two or three inches—the bladder ought to be artificially emptied during three or four days additional. In all cases the catheter should be used as long as the urine contained blood.

In the cases in which urine appeared through the abdominal wound subsequently to the operation, at a time and under circumstances which might make it dangerous or inexpedient to reach the seat of the vesical injury, the catheter ought to be used either continuously or at short intervals, for the purpose of lessening the amount of urine which escaped through the fistula, and thus aid in the closure of the latter. If, however, the fistulous opening showed no disposition to close after two or three months, the edges should be freshened to the depth of half an inch or more and stitched together.

In exceptional instances it might be expedient to affix the wounded edges of the bladder within those of the abdominal incision, in the manner detailed by Thomas and others; but as this plan must interfere to some extent with the subsequent contractility of the bladder, it is not to be commended as a usual practice. The suturing and "dropping" of the vesical wound is the better method.

Discussion on the Last Six Papers Together.

Dr. William H. Polk, of New York, said the views of Drs. Parish and Johnson were those of the present day. The pathology of pelvic cellulitis that had been in vogue up to within two or three years has been completely swept away. The pathology of the present was the outgrowth of surgical work and observation, reinforced by the evidence obtained from the dead-house. The subject of pelvic abscess was important, and had been well presented by Dr. Parish, with whose views he was in thorough accord, both as to pathology and treatment. In regard to the question of tetanus as presented by Dr. Johnson, he felt indebted to him for bringing his case before us, and for his exposition of the modern theory as to its probable cause.

Dr. Joseph Price said that the accepted pathology of pelvic abscess was modern. Bernutz and Goupil had described, nearly thirty years ago, a pathology that is correct to-day. If, as Dr. Polk asserts, Sir James Simpson rejected it, a prominent teacher present to-day had, praised and accepted it. Dr. Price further discussed the operation for the condition, asserting that drainage through the vagina, in cases complicated by adhesions, he found no use for; abdominal drainage was always sufficient. So far as pelvic-cellulitic abscess was concerned, he had never seen but one case. He believed the condition nearly always arose from an extension of tubal and ovarian disease. He would never temporize in an attempt to treat such cases by vaginal puncture.

Dr. S. C. Gordon, of Portland, Me., said this question of pelvic abscess opened a broad field for discussion. He thought this question ought to be settled, in view of the vast literature of the subject. Peaslee taught that no such thing as chronic inflammation ever existed. Emmet indorses this view in his book, and then goes on throughout its pages talking about chronic pelvic cellulitis. He insisted that pus need not necessarily be the result of inflammation.
Dr. J. M. Baldy, of Philadelphia, said that the pathology of pelvic inflammations as set forth by Bernutz and Goupil was as advanced as that of the most advanced of to-day, and he did not think, with Dr. Polk, that this pathological position was so generally and widely accepted by the profession at large, as was proven by the almost daily report of cases in the journals. The old idea of cellulitis was still only too prevalent. The treatment of pelvic abscess by vaginal drainage successfully must depend to a great extent on whether you believe the abscess is extra-peritoneal, in the cellular tissue, and has arisen independently of disease of appendages or not. Such an abscess might be so cured if the diagnosis could be correctly made. But, at best, such abscesses were extremely rare. If the case prove one of diseased appendages, the chances were largely in favor of there being several pockets of fluid to drain. Often these cases were complicated by small cysts, hematocoeles, etc. Even granting the case could be thoroughly drained, yet there would still be remaining all the cheesy tube, the adhesions, and everything else—just such a condition, in fact, as Dr. Gordon insisted was as proper for removal as a true pyo-salpinx. Even if well drained it might again fill, as was proven by cases which discharged per vaginam time after time. Often at the time of the operation no pus was found in the tube, but that it had originally been a pus tube was proven by the abscesses found in the cellular tissue alongside of the large, cheesy tube. The treatment of puncture per vaginam or rectum, or emptying by the aspirator, was bad practice. These diseases could always be removed by abdominal section, and should be so removed. He was sorry that Dr. Parish had insisted so strongly on gonorrhea as an etiological factor to the exclusion of abortion and post-puerperal trouble. In his experience these latter were the cause far more frequently than the former.

Dr. Baldy, continuing, and referring to Dr. Vander Veer's paper, said that with more care fewer cases of pregnancy should be overlooked. When the pregnancy was complicated by large tumors, often the mistake was unavoidable; but there were many cases where there was only pelvic disease present, and of these many had been mistaken. He had himself, while driving for a train, stopped and given an opinion in a patient suffering from supposed pelvic trouble, and had advised operation. The operation a few days subsequently showed pelvic disease, but also a pregnant uterus, of three months, which emptied itself subsequently. Had sufficient care been taken in the diagnosis, this would not have happened in this case, as plenty of signs of pregnancy were found afterwards to have existed. He knew of several other such cases. All knew how rare was a soft myoma, how frequent was pregnancy, and with what persistence single and at times married women lied about their condition. If any of the signs of pregnancy could be found, it should at least put us on our guard and induce us to wait. The patient's statements should not influence us in the matter.

Dr. Joseph Hoffman, of Philadelphia, insisted that inflammation is as necessary for pus as any other conditions that stand in the relation of cause and effect. He considers Dr. Gordon's position utterly untenable. As to the pathology of pelvic inflammation, Bernutz and Goupil, had they written to-day, could have been no more correct. They entirely disprove the pathology of Nonat by showing that periuterine phlegmon, as such, could not exist. Except as the rarest occurrence, anatomically it is impossible. The treatment by vaginal incision and drainage is faulty, for the reason that where
the pus pockets are multiple simple incision will not reach them. A simple report of a cure in any one case is no reason for the belief that it will be successful in others.

Dr. A. P. Dudley, of New York, objected to grouping under one head all cases of pelvic disease. The present nomenclature is far preferable.

This discussion was here adjourned till Thursday morning.

Third day—Thursday, June 27th, 10 o'clock A.M.

Dr. Joseph Price made reference to Dr. Vander Veer's paper, and reported two cases of concealed pregnancy in abdominal operations. Referring to Dr. Gordon's allusion to the difference in the number of cases of pelvic abscess seen in the country and the large cities, he said that he had found pus tubes existing all over the country—in the coal regions, in Ohio, and other parts of the country—quite as frequently as in the larger cities.

Dr. Gilman Kimball, of Lowell, Mass., alluding to concealed pregnancy in abdominal operations, reported two cases of his own where he was misled as to its existence, in one of which the sound had been passed beforehand without discovering pregnancy and without causing miscarriage. He also reported four (4) cases of tetanus following ovariotomy in his practice.

Dr. E. W. Cushing, of Boston, also reported two cases to add to Dr. Vander Veer's list.

Dr. Joseph Hoffman said that in some cases where pregnancy was doubtful it might be necessary to operate to save life, and the question of pregnancy need not be considered. He had operated in one case where delay had been unjustifiable. There was acute peritonitis that seemed of menstrual origin, not yielding to treatment, and growing worse. Operation showed tubal inflammation with small quantities of pus; two days afterward the woman miscarried, having been six weeks advanced without any suspicion of it; recovery, though the miscarriage produced urgent symptoms.

Dr. A. P. Dudley said that most laparatomists were able to testify that generally there is flowing from the stump of the tube on the second day after operation, and he thought that abortion after section during pregnancy was frequently caused by the blood insinuating itself between the membranes and uterine walls, thus separating them.

Dr. Vander Veer closed his part of the discussion by reading the conclusions to be found in his paper. He thought that cases often died while waiting for pregnancy to be settled. The lesson that these cases in part strongly taught was, not to use the sound in making the diagnosis.

Dr. Parish closed his part of the discussion by stating that another lesson taught is that the gynecologist and abdominal surgeon should also be a practical obstetrician. He disclaimed responsibility for the term pelvic abscess, but made use of it as the best-understood name for the conditions described.

Dr. Johnson closed by remarking that he was conscious of the incompleteness of his list, and he was glad to get the other cases that had been brought to light in the discussion. He wished particularly to draw attention to the infectiousness of tetanus, and to its probable origin in many instances from animals.

Dr. S. C. Gordon, of Portland, Me., reported a case of
EXTRA-UTERINE PREGNANCY—DEATH OF FETUS AT THREE MONTHS, PERITONITIS FOLLOWING—TEDIOUS CONVALESCENCE—OPERATION SIX MONTHS AFTER—COMPLETE RECOVERY.

Mrs. B., 25 years of age, married eight years. Never pregnant; no means used to prevent. Missed menstrual periods March, April, and May, 1888. Many of the rational signs of pregnancy; much more pain than usual, and in right side; increased leucorrhea with one slight show of blood. In June (early in the month) was taken with severe pain in right inguinal region, lasting several hours and of a most excruciating character; no collapse or fainting. The next day felt soreness at lower part of abdomen. In a few days was up and attending to domestic duties, but in about a week came down with severe peritonitis, which continued for two or three weeks, leaving her feeble, anemic, and tender in the side all summer and fall of 1888, at times suffering considerable pain. In October, November, and December menstruated regularly, but with pain. In December, 1888, and January, 1889, I saw her for the first time, and found a tumor at right of uterus, about four inches in diameter, and diagnosed a "probable ectopic pregnancy." Three weeks after, operated and found a fetus in right Fallopian tube, apparently three and a half months advanced; fluid from sac and fetus absorbed; strong, firm adhesions and one desiccated clot as large as a nutmeg and similar in color. I removed the mass, and also a hemato-pyo-salpinx from the left side containing eight ounces. The patient made a rapid recovery and returned home at the end of five weeks.

The specially interesting points in this case are the severe pain at the time of rupture (which undoubtedly occurred in June), without collapse; the recovery from a severe peritonitis, and the subsequent ill health without suppuration on right side.

To me it is simply another illustration of the danger that lurks in delaying laparatomy after a diagnosis of extra-uterine pregnancy is made or can be made. While I do not believe with Dr. Hanks that "a diagnosis can be made in ninety-five per cent of cases," I do think that in many of them it can be sufficiently accurately determined to warrant making an exploratory incision and making certain the condition.

I wish also in this connection to enter my protest again, as I did in a report of a former case and at the meeting of the Gynecological Society last September at Washington, against the electrical treatment of this class of cases. If a diagnosis can be made accurately enough to warrant using an electrical current sufficient to kill the fetus, I believe it is malpractice not to at once make laparatomy and remove a foreign body which, in a majority of all cases, will sooner or later require removal, prove fatal, or seriously impair the woman's health. I think it is time that the profession put itself on record in this matter, in order that men of less experience may judge for themselves who are right.

Dr. WM. H. Taylor, of Cincinnati, reported a case of
Diagnosis being such an important factor in the consideration of the case, he briefly stated the symptoms as presented by recent writers on the subject, and then reported a case recently under his care in which most of the phenomena of the condition in the second month were present. Several applications of galvanism were made within a period of two weeks. The sufferings of the woman were mitigated at once, and by the end of three months the tumor had greatly decreased in size and the woman was restored to health.

In view of the diversity of opinion as to the value of electricity in the treatment of extra-uterine pregnancy, the essayist regarded the result here as testimony in favor of this treatment.

Dr. Wm. M. Findley, of Altoona, Pa., reported a case of

TUBAL PREGNANCY—DELIVERY AT SIX MONTHS "PER VIAS NATURALES"—RECOVERY.

Mrs. Annie S., married, æt. 28; mother of two children, born, without complications or accidents, at term; first experienced the characteristic pains of tubal pregnancy, sharp, short, twisting, and nagging, with tendency to syncope, during the months of November and December, 1887, and until February 14th, 1888, when she was seen with her physician. Tumor in right iliac fossa, uterus elongated, os not much changed. Expectancy practised, although the fetal head could be made out in the vagina to the right, with the body as a roll along the right side of the uterus, and blending with the body of the same, near the fundus, at the umbilicus. Nine days after, labor came on, and a fetus of about six months was extruded; the labor being prolonged, and the secundines being very tardily thrown off. The waters had broken three days prior, when a thorough exploration of the uterus for six inches with a sound revealed it empty, elongated, and flattened. Recovery was complete, but extended over several months.

Dr. J. M. Baldy went farther than Dr. Gordon as to the time to operate in these cases; where Dr. G. would wait for a diagnosis, Dr. B. would not. He would not because he did not think it always possible to make the diagnosis. He had often seen the diagnosis made and the operation reveal anything but an extra-uterine pregnancy; on the other hand, he had often seen operations for something else and an extra-uterine pregnancy found. Again, he had seen the correct diagnosis made and proven by the specimen. With this element of doubt it was unsafe to depend on a diagnosis or to wait for one. If a pelvic mass were found which created symptoms sufficiently grave to be a menace to life, then we had enough to operate on, and it should be done at once. The treatment of these cases by electricity depended entirely on the diagnosis, and the men who claimed most in this respect had all failed. A prominent New York surgeon had reported a large number of these cases treated and cured by electricity; these cases were quoted all over the country as authority, and were being continually brought triumphantly forth
as proof of the electrical position. Any one reading the reports of these cases will soon become convinced that in very few of them is there proven what is claimed for them. In many of them the attending physician differed absolutely as to the diagnosis, and he had a personal letter from one of the attendants assuring him that in one of them the diagnosis was not made until after the treatment was all over, and there was to his mind not the slightest proof that such was the condition. The published records themselves prove about the same thing. He believed that at times electricity would kill the fetus, but after it was killed what then? The electricians, even Thomas, advise an operation and removal of the remnants. And what are these remnants? Just exactly such a condition of affairs in the pelvis as almost every one present had been advocating the removal of, in the discussion following Dr. Parish's paper on pelvic inflammatory troubles. Not only was the woman's life endangered by this mass as it was, but it often took on suppuration and either was emptied by a tedious process or else killed the woman. The only proper and safe procedure was immediate operation and clean removal, and thus save the life of the patient and prevent the possibility of subsequent and grave trouble. Electricity in this trouble is worse than folly.

Dr. Price did not doubt that in these days, when women resorted so freely to the gynecologist for the slightest trouble, a diagnosis might be guessed at and made. If it were possible to watch the whole progress of a case, diagnosis would be more likely to be made, though even then the policy of waiting for absolute confirmation is dangerous. He had operated for supposed extra-uterine pregnancy, and found other conditions present when the history appeared to be clear. On the other hand, he had operated or assisted where extra-uterine pregnancy had been found when it had scarcely been considered. Operation he believed to be the method; he had no place for electricity, because his results by actual interference with the knife had been so good that even the boasted results of electrical treatment at their best were no better, and were superior in that they left no pelvic mass for future complications.

Dr. A. F. Currier, of New York, believed that the diagnosis had been positively made as proven by Thomas' reported cases. He believed, however, that the day was coming when electricity would not be used where extra-uterine pregnancy was positively diagnosed.

Dr. Hoffman said that Thomas' reported cases, if they proved anything, showed that an early diagnosis of extra-uterine pregnancy had not been made. In several of the cases where the symptoms were seemingly plainest, there was expressed doubt as to the correctness of the diagnosis. In others there was a disagreement between the authorities consulted. In still others the diagnosis, if made, had only been made after the occurrence, once or twice, of collapse. Now, the argument of the electricians is that after rupture electricity is not to be used because inefficacious. The use, then, of electricity shows only that they have contradicted themselves in its application, or that the condition for which they applied it did not exist. Repeated collapse could only come either from leakage or rupture; simple pain could not cause the alarming symptoms present in these cases. Bernutz and Goupil speak of an ensemble of symptoms pointing to extra-uterine pregnancy and justifying suspicion of its presence. Their decisive point, however, is rupture and collapse. This is the keystone of the arch.
Dr. Gordon, in closing the discussion, said: I am very glad to find so many members of the Section in accord with me on the treatment of this condition. I think the time has now come when the profession should be in accord on this matter. If it be true, as Dr. Hanks, of New York, said at the meeting of the American Gynecological Society last September, “that ninety-five per cent of cases can be diagnosed before rupture,” it seems to me that in anything short of clearing the pelvic cavity from a foreign body which at any moment is liable to rupture and prove fatal, or, if killed by electricity, still remains a foreign body, causing lingering illness, with possibly final death, the treatment by electricity is evidently bad practice. In my own case, the patient, although not dying at time of rupture, yet was a great sufferer from pain and debility until I operated. Then she at once recovered. The treatment by electricity, while it is termed surgical, is in no sense good surgery. If it be claimed by its advocates that we are not and cannot be always sure of our diagnosis, I answer that we are as sure as they are, and if there be symptoms pointing to the pelvis which materially affect the woman’s health, we are justified in opening to find out the condition.

I have known rupture to take place after a diagnosis was made and before the operation could be done, even when determined upon. I am glad to hear Dr. Currier, of New York, speak so strongly in favor of laparotomy. I know that Dr. Janvrin is equally positive that this is the proper course, and I trust they may prove a leaven to the lump in that medical centre. It will always be a question of diagnosis, but I am sure that a more careful observation, with larger experience, will enable us to clear up many points that are now obscure, and then I think our course should be plain.

Dr. A. B. Carpenter, Cleveland, Ohio, read a paper entitled

ALEXANDER’S OPERATION, WITH A NEW METHOD FOR SECURING THE ROUND LIGAMENTS.

He said: It is my purpose, in appearing before the members of this Section, to speak briefly regarding the Alexander operation, with special reference to its application to complete prolapsus.

You are all familiar with the claims of Dr. Alexander and also with the writings of Mundé and others on the subject; therefore it would be only a waste of time to enter into detail in describing the various steps of the operation, but I will confine myself principally to a few remarks regarding the fastening of the round ligaments.

As a radical cure for this most distressing condition I believe the Alexander operation has no equal, because of the simplicity of the work and the comparative, yes, almost absolute, freedom from mortality. It is true there have been deaths recorded as resulting directly from the operation, yet this occurred in the early time before the detail was well understood.

The greatest objection raised in the past against this method has been the difficulty in finding the round ligaments. This, however, applied chiefly to the operations for retroversion and retroflexion, where the ligaments were small and very fragile, breaking while being drawn out, causing the operation to be abandoned as incom-
plete, and the surgeon to bear the blame of his work being a failure.

In cases of complete prolapsus it is entirely different; the ligaments have become thickened and greatly enlarged, and the difficulty in finding them in most cases is entirely removed. The many years of constant dragging upon the ligaments have usually resulted in a hypertrophied condition; instead of being small and fragile, we find them of much greater proportions, so that by first replacing the uterus and then having it held well up by a sound in its cavity, the ligaments can be carefully drawn out with little or no danger of their breaking.

In 1885, I had the pleasure of listening to a paper by Dr. Alexander himself, read before the British Gynecological Society, wherein he describes his method of shortening the round ligaments, and I was particularly impressed with what seemed to me to be the insecurity of the fastenings.

If we turn to our anatomy for a moment and consider the structures involved, the dense, unyielding fibres of the pillars of the external abdominal ring, and at the same time the round, smooth character of the ligaments, composed as they are of dense fibrous tissue, thus affording a limited opportunity for the formation of strong adhesions in the wound, it seems to me that a reasonable explanation can be found why many of the cases that have been operated upon have reported themselves in after-months as not improved, the anchorage being so slight and frail that the uterus, by continually dragging, tears the ligaments loose and gradually settles down to its old position. This, at least, was the explanation made to myself, and I accordingly determined to try a different method of fixation.

The plan which I now employ is as follows: The uterus being replaced and held high up by an assistant, the incisions are made and ligaments on either side drawn out until the uterus is found to be well up and forward. A needle armed with silver wire No. 26 is then passed through the external pillar of the ring, through the round ligament, then through the internal ring; this is then twisted down firmly, cut off, and the ends bent over and crushed down, that they may cause no irritation. The slack of the ligaments is then cut off, leaving just sufficient to fill the bottom of the wound. The ligaments are then split to within a short distance of the silver wire and turned partly outward from each other, and stitched with fine gut to the lateral walls of the wound, the latter being then closed, a small drainage tube inserted, and the whole covered by an antiseptic dressing; the silver wire left to become permanently encysted and thus hold the ligaments firmly in place.

A high posterior plastic operation should then be made on the vagina, and upon the removal of the sutures from the latter operation a Hodge, or perhaps, what is better, an Albert Smith pessary with a high bar should be introduced and worn for not less than six months.

A case of complete procedentia of years' standing, operated on by
this method ten months ago, is to-day perfectly well; and with the patient in a standing position the cervix can only be reached by the full-length index finger.

In conclusion, therefore, I will say that this method of fastening the round ligaments is in my opinion superior to any method with which I am acquainted, as it affords a firm anchorage and thus prevents the uterus from dragging upon the ligaments and drawing them gradually out, defeating entirely the object of the operation.

Thursday Afternoon Session, 2:30 o'clock.

DR. AUGUSTUS P. CLARKE, of Cambridge, Mass., then read a paper entitled

**CHRONIC CYSTITIS IN THE FEMALE.**

Of the various diseases the gynecologist is called upon to treat, but few have oftener proved more vexatious or intractable than chronic cystitis. After a careful study of the pathology and histology of this peculiar condition, several factors appear to comprise to a greater or less extent the etiology. The lesions or morbid processes giving rise to cystitis, whether in the acute or chronic stage, are numerous.

Each case should be considered according to its own history and peculiar indications. In the consideration of the subject of cystitis, it is well to keep in mind the structure and anatomical relations of the mucous membrane of the bladder. Reference to the character and arrangement of the epithelial cells shows that there are several layers. The deeper layers are composed of cells that are conical or cylindrical in appearance. The superficial layer of the mucous membrane is provided with a squamous epithelium. The same arrangement is continuous with the structure of the urethra. This epithelial structure of the mucous membrane extends to the urethra, where numerous racemose mucous glands—the glands of Littre—have ducts opening on its surface. The muscular coat of the urethra is formed of two layers and is continuous with that of the bladder. This arrangement of parts gives the urethra and ostium vesica not only a remarkable power for distensibility, but also a wonderful immunoity against ordinary accidents and conditions that occur to the viscus itself. In the treatment of cystitis this fact should be considered, and the point emphasized that the symptoms present in a case of chronic cystitis are often but a mere expression of the organ that there has occurred a lesion or a morbid process, and possibly at a distance from the part seemingly affected. A case of cystitis in which a marked anteflexion existed, occurring in a patient four months advanced in pregnancy and suffering from nausea and morning sickness, was relieved after the uterus had been restored and maintained in position by vaginal tampons and other mechanical support. The importance of fibrous adhesions or cicatrical bands in prolonging an attack of cystitis occurred in the case of Mrs. D. There was a history of pelvic inflammation from which she had recovered, but a cystitis remained that was a constant source of trouble.
Proceedings of the

A strong fibrous band, connecting the posterior lip of the cervix to the vaginal wall below, firmly held the uterus and dragged upon the bladder. After the band was divided, the uterus and bladder were restored without further vesical trouble. Vascular growths within the meatus urinarius often give rise to very distressing symptoms of cystitis, as do also diseases and injuries of the ovaries. Anal and rectal inflammations are not uncommon causes of cystitis. Sometimes urethritis accompanied by cystitis arises from a contracted or a hypertrophied condition of the meatus. In such cases micturition is usually accompanied by more or less tenesmus. This condition of the parts may continue for years and cause a vast deal of suffering. In the treatment, rapid dilatation of the urethra will often afford the most satisfactory results. A resort to rapid dilatation will be found to be most beneficial in cases in which tenesmus is a leading feature, and in which the parts around have been contracted and hypertrophied. There are, however, cases of vesical catarrh in which the walls of the bladder have become so changed and hypertrophied, and the tenesmus so marked a feature, that rapid dilatation, even when supplemented by the aid of irrigation carried out with the most improved means at hand, utterly fails to afford relief. In such cases, Emmet’s operation for artificial vesico-vaginal fistula is not only justifiable but imperatively demanded. Of course, the difficulties attending the subsequent closure of an artificial fistula must not be overlooked. Sometimes cases of cystitis that are apparently quite severe readily yield to the milder means of treatment. Faradism, with one pole near the urethra and the other over the bladder, gives speedy relief. Saline laxatives and mineral waters are of great benefit in the treatment. A douche of corrosive sublimate, 1 in 2,000, will often prove beneficial in cases in which no marked organic changes have occurred, and in which the troublesome symptoms are due to septic ferments and to uncleanness generally. No general rule or special course of treatment can be laid down that is applicable alike in all cases. Suffice it to say that each case as it occurs must be studied and treated according to the peculiar indications.

The medical attendant should recognize the fact that some cases of chronic cystitis, apparently very formidable, as already stated, will readily yield to the simple and mild methods of treatment employed, while others may occur that will defy all recognized methods of treatment, and can be cured or corrected only after the most skilful and ingenious operations have been resorted to.

Dr. Joseph Hoffman, of Philadelphia, Pa., then read a paper entitled

CRANIO TOMY AND ITS INDICATIONS.

He said the purpose of his paper was not to enter into craniotomy in all its phases, but rather to inquire into and determine what place craniotomy as an obstetric procedure, by its own merits or failures or faults, is entitled to hold. Tyler Smith’s plea for the abolition of craniotomy very well illustrates why reform was necessary in the
then accepted indications for this operation. Among the indications were found the following: Arm or shoulder presentations; convulsions; rupture of the uterus; bands or cicatrices in the vagina; rigidity or occlusion of the os uteri; swelling of the vulva and vagina; rigidity of the perineum; disease of the heart or lungs; distention of the mother's bladder.

Certain it is that less harm could result from its abolition than from its performance for a series of indications born only of the rashness of the operator. Craniotomy has for its object the safety of the mother by the mutilation of the child, always when dead, and we believe, under certain conditions, when living. It is criminal to endanger the life of the mother after the death of the child, when fetal malposition, pelvic deformity, or any other cause renders delivery dangerous. The argument when the child is living is not so simple. It resolves itself, first, into the question of craniotomy for fetal deformity; second, for pelvic deformity under certain conditions to be specified. Where there is undoubted fetal deformity, especially hydrocephalus, spina bifida, or in the case of monstrosities, the practice that would insist upon Cesarean section and condemn craniotomy is more sentimental than surgical.

Many of our recent writers apparently desire to condemn it in all cases whatsoever upon the living fetus without exception. As a type of these may be taken the views of Dr. Busey in the AMERICAN JOURNAL OF OBSTETRICS, January, 1889. These writers, of whom Dr. Busey may be taken as a type, fail to appreciate the fact that we need go back no further than Hodge to find that in cases where the short diameter of the pelvis is two inches or under, the Cesarean operation is to be preferred, as affording a better prospect for the mother while having the strong recommendation of affording a good prospect of safety to the child; this, too, before the improved Cesarean operation was devised. These writers seem, too, to fail to appreciate that as long ago as the writer referred to, to go no further back, the early performance of the Cesarean section was specifically stated as justifying strong hopes for "the salvation of both mother and child." It is not possible to avoid the observation that those writers who unhesitatingly apply the statistical method of arriving at conclusions in favor of Cesarean section seemingly forget that the dangers of craniotomy lie almost entirely within the limits already admitted into the domain of legitimate Cesarean section, and that outside of these cases the danger to the mother is almost absolutely nothing, as admitted by Lusk in his late discussion. They seem, too, to consider that craniotomy, to be successful, must be done by the expert, and that the Cesarean section is the safer, no matter by whom performed. To this we submit a positive disagreement, though even Mr. Tait has gone so far as to say, in effect, that the removal of the pregnant uterus is a simple operation.

The point to be here considered is whether the decrional of the abuse of any operation necessarily implies that there is never any requirement or justification of such operation. We think not. No one
will dispute that where there is more danger to the mother in the performance of craniotomy, the conservative operation of Cesarean section should be performed. On the other hand, where there is no danger to the mother whatever, I consider it questionable whether any obstetrician here present would subject his own wife to the danger of a capital operation in order to save the life of the child.

Early operation is confessedly the great requirement for the success of the Cesarean section. If early operation is not possible owing to antecedent delay, apart from the dangers of a contracted pelvis, the relative condition depending upon the skill of the operator, craniotomy as an alternative for the section must be considered, and that operation selected which offers the best prospect of safety to the mother. It must be considered in such selection that protracted labor is a powerful factor in decreasing the living chance of the fetus. It is to be remembered also that the simple fact that the child may be born alive is not sufficient justification for any operation that does not give to it approximately the same living chance that natural birth possesses. The argument then holds that that operation which gives the infant a diminished living chance is not to be selected that also gives the mother a diminished living chance. The selection, then, is rather one of the nature of a determination by logic and the law of chances than by sentiment or dogmatism.

Dr. Busey argues, in his first paper, that the child has been born while the operator was awaiting the arrival of his instruments, as if such facts can entirely condemn the operation. By such reasoning any surgical procedure could be condemned. The writer has delivered by the premature induction of labor, without instruments, a woman on whom an anxious operator had decided that section was necessary. A second case came under his knowledge in which the woman was in her third pregnancy. Her first child died after thirty hours' labor. In her second pregnancy she was delivered of a living child without instruments; child still living. In her third pregnancy she was seen before term and Cesarean operation decided upon. She recovered after a protracted illness, the baby making a narrow escape at birth, being very small. This case has had only a skeleton report, in great part absolutely false, was simply a bid for notoriety, and is a reproach to legitimate surgery. To condemn craniotomy from the standpoint of these cases would be illogical and unfair, yet not more so than the false logic of Dr. Busey quoted above.

The writer purposely avoided the introduction of figures and citation of authorities, endeavoring to bring out points profitable for discussion.

Dr. A. P. Clarke, of Cambridge, agreed with the writer that some occasions would arise where craniotomy would be unavoidable in the interests of the mother.

Dr. Parish, of Philadelphia, made an eloquent plea for Cesarean section, where possible to perform it early, condemning strongly the views and performances of the gentleman who opened the discussion (not handed in), who related that he had done forty (40) crani-
otomies. Dr. Parish did not doubt that certain contingencies might arise in which craniotomy would be indicated.

Dr. A. F. Currier, of New York, regretted that the writer had not made known more clearly the conditions under which he would perform craniotomy.

The Chairman, Dr. Wathen, earnestly protested against the position taken and practice advocated by the gentleman who opened the discussion. He believed that any man in ordinary practice who had performed the operation forty times must have done it unnecessarily. He had never yet performed craniotomy upon a viable child, and never would do so.

Dr. Hoffman, in closing, said he was grateful to both Drs. Parish and Wathen for their expression of opinion. His paper was in no sense a plea for craniotomy, and he did not wish it to be so considered. As to the indications for the operation, they were stated in the paper. He believed some legal restraint should be put on the useless performance of craniotomy. Turning is an operation not free from danger, and in his only fatal case death had occurred from rupture of the uterus; the size of the head prevented birth of the child.

The following are abstracts of papers presented but not read:

A NEW TWO-WAY CATHETER FOR UTERINE INJECTION.

by Dr. A. Cordes, of Geneva, Switzerland.

Finding the instruments for this purpose unsatisfactory on various accounts, principally because they were not easily made aseptic, Dr. Cordes had made in Paris a catheter consisting of two pieces, one sliding into the other, so as to be separable in two grooves looking at one another by their concavities, and being easily cleaned with a brush. The blind end near the eyes is filled up to their level with metal, so as to leave no corner or uneven space in which microbes could lodge. These grooves are converted into tubes by the introduction of a sound in a sheath of soft rubber, which adheres sufficiently to the sides of the grooves to make the instrument watertight. Being open at the distal end, it throws the water against the fundus uteri, whence it returns by the exit channel. It may be made of any material preferred, but the author recommended hard rubber as being light and inexpensive.

Dr. Cordes then gave a criticism on the various two-way injection tubes in the market, and thought the one he had devised overcame many of the objections pertaining to the others. Drawings of the instrument accompanied the paper.

THE TREATMENT OF LACERATION OF THE CERVIX BY THE OBSTETRICIAN,


It is common to hear patients abuse the accoucheur for lesions resulting from parturition, for the cure of which they are obliged to consult the gynecologist. The gynecologist himself is not always prompt to defend his confrère. Perhaps it is because in many instances he cannot conscientiously do so. It is not the purpose of this paper to enter into a discussion of the question of actually preventing
serious lesions of the genital tract by proper attention during parturition. There is great difference of opinion as to the percentage of lacerated cervices in which the tear might have been prevented. Of course the prophylaxis can usually be observed only where the accoucheur himself performs some manipulation within the os. In such cases, as well as in rapid labors and occipito-posterior positions, we should be on the lookout for laceration of the cervix, and be ready to treat it when it occurs. The tendency of scientific obstetricians now is to leave the genital tract as far as possible alone after parturition, on the same principle that the surgeon relies upon his antiseptic details during the operation and does not disturb the dressing as long as there is no rise of temperature. We may go to the other extreme. The "antiseptic pad" of Garrigues had led to abuses in the way of non-interference where local examination and treatment were urgently indicated. In our anxiety to avoid "meddlesome midwifery," we may make too light of lesions that are really serious. The accoucheur should never, in his exultation at having successfully terminated a difficult case of labor, lose sight of the fact that while the patient may forget that he saved her life, she can never forget or forgive his making light of a laceration of the cervix or perineum, for which she must undergo a subsequent operation. Whenever we have reason to suspect that a laceration of the cervix has occurred, we should look for it and treat the case accordingly. The treatment may be immediate or secondary.

1. Immediate.—In a small number of cases (version or instrumental delivery) the cervix is so deeply torn that the hemorrhage from the circular artery is sufficiently dangerous to threaten. Here prompt action is necessary. One or two deep wire sutures should be introduced. The practice of introducing tampons, giving astringent injections, etc., under these circumstances is to be condemned. Follow the ordinary surgical rule—to ligate the severed artery.

2. Secondary (or subsequent) Treatment.—Do not attempt to repair the laceration by sutures, either at the time the laceration occurs or during the puerperal month. Wait until involution has proceeded—at least three months. Rely on perfect cleanliness, antiseptic vaginal injections, and iodoform suppositories. Local applications to the torn cervix during the puerperal month are reprehensible. Keep the patient in bed longer than usual. Be on the watch for septic infection, especially the insidious form of parametritis. When the patient goes about, support the uterus with a pessary if it remains large and tends to sag downward.

As a result of this treatment, many cases of extensive lacerations of the cervix heal during the puerperium. References to author's experience in private and hospital practice. Dr. Emmet's views.

Conclusion.—We are still far from realizing the scope of preventive medicine. No reason why such a large proportion of female ills should originate from what we denominate a "physiological process." Nature is kind, but we sometimes trust her too much. It should be
the aim of the obstetrician to forestall the gynecologist. Allusion has been made to only one puerperal lesion, but how many more serious troubles (salpingitis and oöphoritis) might be avoided by greater care of the woman during and after labor? The subject is not a new one, and the author merely seeks to reawaken interest in it. The general practitioner should feel his responsibility more. It should be his aim to look beyond immediate results to those more remote. His present triumphs should not be bought at the expense of future and well-merited blame.

DR. GEO. APOSTOLI, of Paris, sent a paper on the

ELECTRICAL TREATMENT OF SALPINGO-OVARITIS.

1. My electrical treatment of salpingo-ovaritis reaches back to the year 1882, and has been heretofore described under the name of treatment of perimetritis.

2. It comprises three methods of application, which, mentioned in the order of their increasing efficacy, are: the faradic current of tension, the simple galvanic intra-uterine application, and the vaginal galvano-puncture.

3. Every electrical treatment ought always to be rigorously preceded and followed by an antiseptic vaginal irrigation (of sublimate, carbolic acid, creolin, or naphthol). It will be besides most advantageous to keep the vagina closed between the treatments with gauze saturated with iodoform, sublimate, or salol, for the purpose of maintaining perfect antisepsis and to prevent as far as possible all sexual relations.

4. Confinement to bed, not obligatory in the light forms, will always aid the efficacy of the treatment. A rest of from one to several hours will be obligatory after every galvano-cauterization, and especially after every galvano-puncture.

5. Of the two localizations of the faradic current which I advise—the vaginal and uterine—the uterine, with the aid of a bipolar sound, is the more efficient.

6. The faradic current of tension is only tolerable and indicated in the acute and subacute forms, and the faradic current of quantity, which is less efficient and less tolerable, ought to be excluded, except in certain rare chronic cases which are very old, in which it will be able to render some service.

7. The faradic current of tension is an excellent and rapid sedative, which calms the acute condition, diminishes the pain and nervous excitability, but remains powerless against the development of the inflammatory process.

8. The current of quantity will be able in certain chronic forms to aid in the absorption of the exudates by stimulating the interstitial circulation.

9. Faradization ought here always to be applied in moderate doses, without shock, and with a gentleness which increases in proportion as the condition is more acute.
Proceeds of the

10. The faradic treatments ought from the beginning generally to last from five to fifteen minutes daily, with a dose which increases gradually, and which ought not generally to pass the limit of individual tolerance.

11. Intra-uterine galvanization, or, more properly, chemical galvano-cauterization, will often succeed in itself in curing certain catarrhal salpingo-ovarites. It constitutes an excellent method of progressive and total destruction of the uterine mucous membrane, which is always diseased in these cases; of rendering healthy the uterine cavity; and of peripheric derivation.

12. It presents the following advantages over the use of the curette:

- It is absolutely harmless;
- It can be localized in the whole or part of the uterine cavity;
- It is progressive, not violent, and never instantaneous;
- It is mathematically dosable, and thus acts as may be desired;
- It is acid or alkaline at will;
- It is generally tolerable and requires no anesthetic;
- It is easy of application and does not necessitate an assistant;
- It does not condemn the patient to a forced confinement to bed;
- It is not contra-indicated by any acute condition;
- It unites to a local superficial action a trophic, general antiseptic, and interpolar action.

13. The positive pole always causes less congestion than the negative, which latter brings about resolution more rapidly; therefore the positive pole should generally be applied in the beginning, to give place later to the negative pole.

14. Every galvano-cauterization ought to be given in a small dose at first, gently, in order to test the uterine, and especially the peritoneal, susceptibility. The intensity will increase afterwards with the tolerance of the patient and the clinical indications; beginning with twenty to forty milliamperes, it will reach progressively the figure of one hundred to one hundred and fifty.

15. The treatments will take place once or twice a week, and the duration of each will vary from three to eight minutes, according to the circumstances.

16. Every salpingo-ovaritis which is not rapidly modified by the intra-uterine galvano-cauterization ought to be treated by the vaginal galvano-puncture.

17. The efficacy of the galvano-punctures is generally much greater than that of the galvano-cauterizations, as the patients affirm and as my daily experience proves.

18. Every galvano-puncture ought to be conformed scrupulously to the following general rules:

- To use a very small and sharp steel trocar;
- Never to bury it deeper than one centimetre at most.
- To avoid the anterior cul-de-sac, and to make the puncture behind or at the sides upon the point of the inflammatory tumor which is most prominent in the vagina.
Anesthesia will be often necessary in galvano-punctures of high doses.

To avoid the use of the speculum and to plunge the trocar through a long, isolating cylinder of celluloid, after having previously explored the region with the index finger in order to avoid any arterial pulsations.

One or two weeks will intervene between the treatments by the galvano-puncture, and they should not generally be repeated until the reaction from the preceding has entirely disappeared.

The indication for the galvano-punctures should be reserved for those cases alone in which the uterine appendages are near the vaginal wall.

The average intensity of each sitting should vary between fifty and two hundred and fifty milliamperes, and their respective duration should be from five to eight minutes.

19. The positive puncture will be generally indicated in the beginning, as less dangerous and causing less congestion than the negative, and in order to establish, if possible, the adhesions between the uterine appendages and the vaginal wall. The negative puncture, which generally produces more resolution in high doses, will aid in creating a vaginal fistula from the tumor in case of pyo-salpingitis.

20. Almost every salpingo-ovaritis will be amenable to an appropriate electrical treatment, which will be, before all, the conservative method of choice, sovereign in most catarhal salpingo-ovaritis, calming only in the tuberculous salpingo-ovaritis, and capable of curing certain purulent salpingo-ovaritis, thanks to the establishment of a vaginal drainage.

21. All electrical treatment followed by an intense or prolonged febrile reaction should be immediately suspended, or at least very much lessened; and this will fix sometimes the diagnosis of pyo-salpingitis, which will only be amenable to the galvano-puncture when it projects sufficiently into the vagina to permit of evacuation with safety.

22. Every course of electrical treatment, whatever may be its duration, ought not to cease until the patient declares herself symptomatically cured, and until examination shows a considerable anatomical resolution.

23. All salpingo-ovarites will come under the jurisdiction of surgery, only when all the preceding electrical methods, applied for a sufficiently long time, have been exhausted with complete failure.

24. Castration, which irretrievably mutilates women, both physically and morally, which kills them sometimes, and which only cures definitely and permanently in about a fourth or fifth of the cases, ought to be an operation of necessity, never of choice, and considered as the last resource of therapeutics for the uterine appendages.

25. The electrical therapeutics which I advise, which is conservative, inoffensive, easy of application by every one, and which does
not pretend to produce a constant and radical cure of salpingo-
ovaritis, finds its best justification in this fact, that a subsequent
normal pregnancy is possible, as I have seen in several of my
patients.

THE USE OF GLYCOBORON IN GYNECOLOGY.

W. Thornton Parker, M.D. (Munich), Narraganset Pier, R. I.
—The use of glycoboron, or boroglyceride, has been so repeatedly
brought to the notice of the medical profession that it may seem un-
reasonable to occupy your time with any further reference to this
valuable antiseptic for surgical and gynecological uses.

As early as 1882, after my return from the Charing Cross Hospital,
I endeavored to lend my aid in bringing glycoboron to the favorable
notice of the surgeons of this country.

Whatever may be the opinion of medical men as to its value in
surgery, it certainly possesses valuable properties when used in gyn-
ceology. Glycoboron, or boroglyceride, is, as its name would imply,
a combination of glycerin, borax, and water. It is not, however, a
mixture of these two preparations, so well and so favorably
known, but it is a definite chemical composition produced by scien-
tific manipulation. A hydrate is formed by a large quantity of
drugs, glycerin and borax, and the perfection is attained in the compound known
as glycoboron. Without referring to the many uses in surgery for
which this preparation has already proved its great value, we can readily understand how useful glycoboron may be in gynecological
practice.

In solution, for injection in diseases of the bladder, rectum,
vagina, and uterus; with Tiemann & Co.'s excellent syringe for
the three first-mentioned organs, and for the uterus it can be con-
veniently used in Tiemann & Co.'s intra-uterine measuring and in-
jecting tube.

For chronic leucorrhrea, vaginitis, etc., it is best employed in the
form of large gelatin suppositories. Mr. Powel, of Messrs. Caswell,
Massey & Co., has made for me some suppositories which to my
mind are unequalled by any made in this or any other country.
The small cacao-butter suppositories so common in use are almost
worthless, if not positively injurious. I have here some of the gly-
coboron suppositories to show you, and I think you will readily
allow that nothing better of the kind has yet appeared for medical
uses. These, you will notice, are large and yet well made, easily
introduced, and rapidly melting; they are the most cleansing appli-
cation for diseased vaginal structure which it has ever been my good
fortune to find. The vagina must first be thoroughly cleansed with
copious injections of hot water before the suppositories are used; at
least the best results are only obtained when this is attended to.
Besides the suppositories, Mr. Powel has made for me these tablets. You will notice that they are about as large as a silver "quarter-dollar," but very much thicker. These are used for ulcerated cervix, and are kept in place by a well-fitted plug or pessary of oakum (tarred jute). The oakum pessary I have already described in medical journals, and have found it very kindly received and giving good results.

Where the tablets cannot be obtained, the oakum pessary can be spread with Unguentum glycoboron in various proportions as to strength.

For the intra-uterine injection, the measuring and injecting tube already referred to will be found safe and convenient. The cleanliness and gentleness of glycoboron, and the steady improvement almost always resulting, should be sufficient proof of its superiority to the commoner and cheaper forms of useless cacao-butter suppositories so generally in use.

No preparation with which I am familiar at all equals glycoboron in its healing and cleansing properties, especially in gynecology.

The vagina can be readily cleansed after menstruation by using these suppositories. Catarrhal troubles of the vagina and uterus give way before the healing results of this comparatively new antiseptic.

Pencils of glycoboron have been made for intra-uterine use when injections are contra-indicated.

Not long ago some articles appeared in the New York Medical Record discussing the best vaginal tampon. I believe that fair experiment will demonstrate that the oakum or tarred-jute pessaries, more or less saturated with Unguentum glycoboron, are superior to any others either as pessary or tampon, and that for vaginal applications in any of the diseases of vagina or rectum nothing can equal a reliable and easily applicable preparation of glycoboron.

I require the patient to use a vaginal injection of hot water just before going to bed. I recommend the use of Tiemann’s vaginal syringe, on account of its safety and the copious amount of water it is capable of throwing into the vagina at each compression of the large bulb. The tubes are valuable on account of their large size and many apertures, and, being made of pliable rubber, are not so injurious to the patient as the tubes generally in use.

After injecting the hot water, the suppository of glycoboron is to be introduced.

A napkin should be worn to prevent soiling the bed linen from the melting of the suppository.

"This syringe is made entirely of rubber, and the vaginal and rectal tubes are perfectly flexible. There is no terminal orifice, but the sides are perforated with 'velvet eyes' for a distance of nearly two inches from the end. These rubber syringe points do not lacerate the mucous membrane, nor produce the injury so often caused by the hard metallic tubes. The bulb and tubes are large, and insure a copious supply of water."
The injection is best taken in the recumbent position in bed, and this has been made possible by the invention.

The action of the glycoboron continues during the night, and in the morning the vaginal injection may or may not be repeated, according to the direction of the attending physician.

Severe cases of vaginitis often yield after the use of a dozen of these suppositories, one being inserted night and morning after copious injections of hot water.

The preparations of tannin, oak bark, alum, lead, "bichloride," etc., I never use, having found that where any aid can be derived from local treatment glycoboron will give the best results if properly attended to in the details I have mentioned. Certainly this treatment is worth a trial for those who are not already familiar with it.

Dr. E. E. Montgomery, of Philadelphia, sent a paper on

THE INDICATIONS FOR, AND LIMITATIONS OF, THE OPERATION FOR THE REMOVAL OF THE APPENDAGES,

in which he urged the importance of their more accurate determination. The operation was introduced on three lines of indications:

1. To bring about the menopause in what are known as the neurones.

2. For the relief of symptoms due to pathological changes in the tubes and ovaries.

3. To establish the menopause in grave and threatening disease in the uterus.

The aims of the operation as here expressed are legitimate when the indications are correctly interpreted. The indications may be divided into physiological and pathological, the former comprising operations done to establish the menopause, without reference to the pathological conditions present; the latter, primarily, for the removal of diseased organs, and may be partial or complete.

The operation is justifiable in mania and epilepsy, when they can be closely associated in origin or subsequent occurrence with the menstrual function. It affords no relief in nymphomania, as the ovaries do not govern the sexual appetite nor the power to gratify it. In hysteria it should be a dernier resort, and then performed only after the patient has been fully informed of the influence it is likely to exert upon her future life. Its value in uterine myomata cannot be questioned, but the exceptional cases in which the flow is not arrested make it advisable, when feasible, to do a vaginal hysterectomy.

Suppurative inflammation of ovary or tube is a positive and imperative indication. The frequency of this, with peri- and parametritis, make it good practice to advise exploratory incision with a view to removal of the offending organs in recurring attacks of either of the latter diseases.

Chronic inflammation of the tubes and ovaries is not necessarily an indication for operation. Polk and Imlach have done good work
Ivans, of the Obstetrical Society of New York, 757

by demonstrating that many cases can be restored to health by separating adhesions and shortening the round ligaments.

In conclusion, he urged:
1. That the operation for the removal of the appendages should be promptly performed in every case in which it is evident that relief cannot be otherwise obtained.
2. It should be considered a last resort where there is a hopeful prospect of restoration to health by less dangerous methods, or without the sacrifice of the reproductive function.
3. Its consideration should be dismissed in every case capable of restoration to health by other plans of treatment.

The next meeting will be held in Nashville, Tenn., beginning on the third Tuesday in May, 1890.

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TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, February 5th, 1889.

The President, Dr. H. T. Hanks, in the Chair.

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VESICAL CALCULUS CONTAINING A HAIRPIN.

Dr. Dudley read the following report by Dr. Hicks, house-surgeon of the Randall’s Island Hospital:

Miss D., age 24, born in the West, came to this city when quite young. She spent most of her childhood in the Children’s Hospital on Randall’s Island. While there she was treated for eczema and acute rheumatism. She left the hospital when six years of age, and for a time she slept with her brother, who was three years her senior. She says she then formed the habit of masturbation, which she has kept up more or less ever since.

Her residence with her sister was of short duration, and she was sent to the House of the Good Shepherd. There she was required to do housework and sleep in a dormitory which accommodated sixty persons. She continued the habit of masturbation, and seven months ago, while using a hairpin for the purpose, the pin passed into the urethra beyond her reach. One of her girl friends tried to extract it for her, but failed. The patient says she also told the physician of the institution of it, and he gave her medicine internally.

The morning following the introduction of the pin the patient had considerable pain and complete incontinence of urine. The pain and incontinence had existed ever since. She was re-admitted to Randall’s Island Hospital January 30th, 1889, in a very debilitated condition and suffering excruciating pain, the latter
increasing when lying down or moving about. Stone in the bladder was readily diagnosed, and the patient was put under ether for its removal, which was successfully done by vaginal section, and the wound at once reclosed with silver-wire sutures, nine being used to close the incision.

Since the operation the patient has suffered little or no pain. The wound remains water-tight, and her average temperature has been 99°.

Dr. Dudley said that stone in the bladder resulting from the presence of a hairpin was not very rare. In his short experience, he had met with them in four cases. He had seen one case in Dr. Gillette's practice, and one last year in consultation with Dr. Schoonover. In the latter case, the hairpin had been only two days in the bladder, but a calculus was already beginning to form. It was easily extracted by means of an ordinary long button-hook. The patient claimed that she had used the hairpin to pin her napkin with, and that in walking about it had slipped into the urethra. He considered this very doubtful, however, as the condition of the nymphæ and adjacent parts appeared to indicate that she had been in the habit of masturbating.

RETROVERSION WITH ADHESIONS—LAPARATOMY.

Dr. Dudley also reported a case (the specimens from which had been lost) of retroversion of the uterus with firm adhesions, on which he had recently operated at the Post-Graduate Hospital. He performed laparotomy, and found the left ovary, with the uterus, lodged in the hollow of the broad ligament as it was folded over. The ovary contained a large hematoma, and the veins were as large as an ordinary pen-holder. He removed it, applying a catgut suture. The right ovary was completely veiled by false membrane, and it required a force equal to twenty-five pounds to tear it up so that the ovary could be removed. This stump was also ligated with catgut, and he broke up all the adhesions that he could, and then washed out the cavity. He wished to call attention to the danger of secondary hemorrhage in cases like this, where a large amount of traction was required for the removal of the second ovary. On inspecting the stump of the first ovary he found a slight trickling, which made it necessary to quilt the broad ligament, and he was confident that if he had not made this inspection the patient would have died of secondary hemorrhage. A large amount of traction on the broad ligament was very apt to strain the ligature already tied, and therefore it was a matter of great importance that a careful inspection should always be made before closing the abdomen.

Dr. Grandin inquired what the chief symptoms were that led Dr. Dudley to perform laparotomy in this case.

Dr. Dudley replied that for a long time the patient had suffered from pain in the left side of the abdomen. The patient was
admitted to the Woman’s Hospital, and it was found that the left ovary was somewhat, though not very greatly, enlarged. After eleven weeks she was discharged unrelieved. He said that he had made the laparotomy because after years of treatment the patient had received no benefit. He started out to break up the adhesions and, restoring the uterus to its normal position, to fasten it forward, leaving the ovaries untouched if they were found not to be diseased. As it was, he performed an internal Alexander’s operation, and in addition removed the ovaries because they were in such an abnormal condition.

Dr. Grandin said that he supposed he performed the operation he did as a substitute for hysterorrhaphy.

Dr. W. Gill Wylie said that he did not see why the term hysterorrhaphy should be retained any longer, because at the present day no one passed sutures through the uterus.

Dr. Grandin replied that, the aim of the operation being to hold the uterus up, the term seemed appropriate.

Dr. Malcolm McLean inquired whether in such cases Dr. Dudley found that at the end of a year his patients were relieved of their symptoms. He had met with a great many instances in which, after a few months, the women were even worse than before the operation.

Dr. Dudley said that he knew of a considerable number of cases in which, at the end of a year or more, the patients remained perfectly relieved. He believed that in those cases where they continued to suffer the condition of the uterine mucous membrane had been overlooked.

Dr. Grandin said that all had met with cases in which the removal of the ovaries was not followed by permanent relief; and he believed that where this was the case it was due to exudation around the stump. Later on Dr. Coe would report a case which he thought had some bearing on this point.

Dr. Wylie said he wished that those meeting with cases unrelied by the operation would report them fully and exactly. The more cases he saw, the more he was convinced that if the ovaries and tubes were completely removed it was very rare that there was any trouble afterwards. The most satisfactory cases that he met with were those on which he operated several years ago. It was his practice to perform laparotomy where there was present real disease of the ovaries or tubes which could be clearly made out by physical exploration, and not merely from hysterical and other nervous symptoms. Not long ago a gentleman had told him that a large majority of his (Dr. Wylie’s) cases were failures; but when asked to give the facts on which he based his opinion, he could mention but a single case. Dr. Wylie said that all his cases were reported in full, and he had nothing to conceal in regard to them.

The President inquired of Dr. Dudley if he felt quite as safe with catgut ligatures as with Chinese silk. He always felt somewhat afraid that the gut would slip.

Dr. Dudley said that one could not use as much force with the gut as with silk, but he had never found it to slip. He had even used it in hysterectomy. In ligating the stump of an ovary, he transfixed the centre of the broad ligament, and then passed a double strand of catgut around each side. He had seen several cases in which marked symptoms remained after removal of the ovaries, but he did not believe that those were due, as a rule, to
plastic exudation around the stump, but to a diseased condition of the endometrium. Not infrequently the os was found to be eroded and the uterus congested and tender long after the operation; and he believed that if appropriate treatment was applied to the uterus the symptoms would usually disappear.

Dr. Wylie said that in cases like Dr. Dudley’s the slipping of the ligature may be due to the manner of ligation. The fact was that the operator in ligation made considerable tension on the pedicle, and it was the retraction of the tissues which caused the difficulty. To prevent slipping of the ligature, too much was apt to be left on the stump, and not infrequently some of the ovarian tissue was allowed to remain. He could not agree with Dr. Grandin that the symptoms sometimes met with after the removal of the ovaries were due to plastic exudation, and he believed that the prevalent idea that exudation and adhesion is a disease was a mistake. Such exudation could do no harm unless it was attached to some diseased organ or gland, or interfered with the function, or stopped the lumen of an intestine. If a septic ligature was left, it was liable to cause localized septic material, which would, however, disappear in the course of time, usually by working its way out through the tract of the drainage tube. Where menstruation continued after the ovaries had been removed, the real cause was that the whole ovary had not been taken away. Inflammation contracts and shortens the ligaments, and frequently ovarian tissue is left in the stump. The portion remaining might become diseased, and sometimes cystic degeneration resulted. In two cases of his in which he thought he had removed the entire ovary, cysts developed as large as an orange. If there was accompanying uterine disease, this might require treatment, but, as a rule, if menstruation ceases the cases get well. There may be some reflex trouble with the atrophying and contraction of the uterus, but free dilatation and application of pure carbolic acid to the endometrium would relieve these troubles—hot flashes, indigestion, etc.

The President said that, like many others, he had been in the habit of using the silk ligature, and he would like to inquire whether any one had noticed any trouble from this ligature simply because it was silk.

Dr. Wylie said that, provided it was aseptic, it mattered little what the suture was composed of. Personally he preferred the silk ligature, because it was stronger. Catgut had the disadvantage of being elastic, and while nineteen catgut sutures might be perfect, the twentieth would perhaps fail.

The President said that this was the opinion that he himself had formed. The catgut was not always entirely reliable.

Retroversion with Adhesions—Cystic Ovary—Laparotomy.

Dr. Wylie presented the ovaries from a case of his own, and said that he was glad Dr. Dudley had taken up the subject of retroversion with adhesions. In his case one of the ovaries presented the characteristics of a cystic tumor. With the fluid in it, it was the size of an orange, with the tube completely occluded and adherent to the sac of the cyst. The other ovary was not enlarged, but the tube was completely occluded, indurated, and nodular, and both were practically useless organs. The history of the case, which was an unusually interesting one, was as follows:
Mrs. M., the wife of an officer of the U. S. Army, aged 33, married second time. Years ago she had local peritonitis following miscarriage, and had several attacks since, but up to two years ago she did not consider herself an invalid. She had some dragging sensation about the pelvis, and at times had much trouble with her bladder. She had been seen by Dr. , of Minnesota, who said she had simple, uncomplicated displacement and could be cured in a short time. After a few weeks she went to St. Louis, and for a long time was treated by Dr. Engelmann, and afterwards by Dr. Ewing. Both said she had retroversion that could be cured by treatment, but she was not benefited by either. She had lately had more pain, especially on the left side. She looked well and could go about, but now and then she would have violent pain. On physical examination I found the uterus somewhat enlarged and completely retroverted, the fundus being fixed backwards, low down in the pelvis, and the uterus somewhat flexed backwards, with the os lifted up near the urethra. I put her in Sims' left semi-prone position, but could not by very firm pressure lift the fundus forward. I put in a boroglyceride cotton pledget and asked her to return in a few days to be examined again. The cotton caused so much pain that she was forced to remove it. I made another careful examination, and told her and her husband that the uterus was retroverted and fixed by strong peritoneal adhesions, and that, in my experience, nine times out of ten when I found the uterus retroverted and firmly fixed by adhesions the patient had diseased tubes and ovaries, and could only be cured by their removal; that careful local treatment might give some relief, but, as a rule, did more harm than good; in about one out of ten cases where the uterus was firmly fixed and retroverted, the adhesions were the result of severe inflammation of the uterus, which caused an exudation on the uterus and made it adherent to the tissues behind, and that the tubes and ovaries were found normal and not much influenced by the adhesions, and that this case might be such a one; but that the only way to make anything like a certain diagnosis was to put the patient under ether, and, unless the adhesions gave way readily and there were no signs of enlarged or diseased ovaries or tubes, that laparatomy should be done; that the uterus might be kept up, dilated, and treated, or Alexander's operation could be done to shorten the round ligaments. I advised giving ether, and, after making a diagnosis, to proceed with either operation indicated. I advised a consultation. Dr. Polk was selected. He saw the case and agreed with me as to ether, and thought Alexander's operation would probably be the one needed.

The patient was courageous and did not wish any more local treatment, but desired radical measures taken at once. Her husband was anxious and dreaded an operation. He took his wife to Dr. T. G. Thomas, who made a careful examination and advised her to take ether and have the adhesions broken up and a
pessary inserted, etc., but advised strongly against any operation to shorten the round ligaments or open the abdomen.

Finally they decided to put her in my Sanitarium and do as I thought best. When the patient was etherized, bimanual examination made it perfectly plain that both tubes and ovaries were imbedded in adhesions, and that there was a cystic ovary the size of a large lemon or orange to the left, filling up that side of the pelvis. It took three-fourths of an hour to separate the adhesions and tie off the tubes and ovaries. The adhesion binding the fundus down was two inches broad, and so firm that it would not have been possible to tear it off without opening the abdomen. Any other treatment than removal of the diseased tubes and ovaries would have been not only useless but dangerous.

I have related this case in detail because I have lately discovered that many still treat such cases with pessaries, and that even quite young teachers of gynecology still practise and teach the use of the uterine repositor—an instrument that for many years I have considered obsolete and dangerous, since by opening the abdomen we have learned that, nine times out of ten, retroversion and adhesions mean salpingitis, local peritonitis, etc., and we know now why, in trying to break up adhesions years ago, our patients had many attacks of so-called cellulitis.

In some cases the tubes and ovaries are not involved, but we cannot in all cases be sure of this without opening the abdomen; and when we do open the abdomen, and find the tubes and ovaries healthy and the uterus bound down by adhesions, after breaking up the adhesions I have devised a very simple and efficient way of fixing and holding the uterus forward. Having freed all adhesions, I catch up the round ligament, at a point about equidistant between the fundus and pubic bone, with a pair of pressure-forceps, pull it up through the abdominal wound, then take a scalpel and scrape the peritoneum on the inner side of the round ligament, so as to make it raw. I then fold together the two halves of the ligament, and bring them into close apposition by means of two or four strong silk ligatures passed around and slightly into the ligament, so as to coapt and firmly hold the ligament folded, but not hard enough to cut into or destroy it. I may then make closer apposition, if indicated, by means of finer and more superficial sutures. These steps are repeated on the other round ligament and the wound closed. It is easily done, and, if the sutures are not placed deep enough to injure the bladder or include a ureter, it is about as free from danger as an exploratory incision. It is much to be preferred to the so-called hysterorrhaphy, and is much simpler than Polk's suggestion to close the abdominal wound and do Alexander's operation after breaking up the adhesions.

I have done this operation the past three years, and with most
excellent results on seven cases. Long before this, when removing the tubes and ovaries in cases of retroversion, I have so included the round ligament in my pedicle-ligature as to shorten it and sustain the fundus forward. A full description of the operation for shortening the round ligaments, when the abdomen is opened, was given in a letter last May to the Pittsburgh Medical Review.

Dr. Dudley said that Dr. Wylie's report clinched his remarks on retroversion with adhesions, and that his deductions agreed with his own. In every one of five cases in which he had performed laparotomy for adhesions, he had found disease of the ovaries and tubes. He performed very nearly the same operation as Dr. Wylie, though he had not thought it necessary to scrape the surface of the round ligament so as to secure better adhesion. In the case which he had presented this evening, he had found a number of firm string-band adhesions between the uterus and rectum, and no treatment other than that adopted could possibly have been of any service.

The President said that he had been coming to the same conclusions as Dr. Wylie and Dr. Dudley. He referred to a case of retroversion with adhesions which he had seen in connection with Dr. Lee. After three or four months of the usual treatment, there were no results whatever, and Dr. Lee then performed Alexander's operation. This also failed to do any good, and laparotomy was determined upon. When the abdomen was opened, it was found that the ovaries were cystic and both tubes enlarged and filled with pus. He had also met with several other similar cases in which, ten years ago, the tampon would have been used for months and months without any beneficial results. He believed that in every case where the uterus was bound down by adhesions which were not recent, it was advisable to make an exploratory incision, and then be guided as to what was to be done by the condition found.

In connection with Dr. Dudley's case of stone in the bladder containing a hairpin, he said he remembered a similar case which he had seen in consultation some years ago on Long Island. He had gone out prepared to operate with the Otis-Bigelow apparatus, but the patient was so thin that he was able by manipulation to make the hairpin protrude from the neck of the bladder, whence it was easily removed. In Paris, it was well known that instruments for the special purpose of extracting hairpins from the bladder were kept on sale.

AN UNUSUAL CASE OF ERETHISM.

Dr. H. C. Coe reported the following case:

Mrs. S., aet. 37, has been married for eighteen years, but is sterile. Her general health was excellent until within the past two years. Before marriage she indulged in masturbation without understanding its wrongfulness. At this time the seat of irritation was the clitoris, but after marriage it was transferred to the ovarian regions, its location being rather indefinite, though the patient thought that it was in the bladder, the pleasurable sensation being transferred to the external genitals only at the
height of the orgasm. In the course of time the latter phenomenon occurred spontaneously without manual irritation of the clitoris. Sexual congress became distasteful. The patient suffered from obstructive dysmenorrhea, and was treated for this twelve years ago by Dr. Byrne, of Brooklyn, who dilated the cervix with benefit. When she came under my observation, about fifteen months ago, she had been treated for several months by a member of this Society, who came to the conclusion that removal of the ovaries offered the only prospect of relief. The patient's condition was then a most unhappy one. She was in such a nervous state that walking, or riding in a street car, would bring on repeated orgasms. Her menstruation was scanty and was attended with severe ovarian pains. The uterus was anteflexed and had a small, subserous fibroid attached to the fundus anteriorly. The ovaries were somewhat enlarged and tender.

I assisted her physician in performing laparatomy in October, 1887. The operation was quite simple, there being an entire absence of adhesions. The adnexa presented the appearance so often seen, the tubes being normal and the ovaries moderately enlarged in consequence of chronic oophoritis, although they contained numerous normal ovisacs. The fibroma, which was about the size of an English walnut, was not disturbed. The patient had an uninterrupted recovery, and has not menstruated since the operation; neither has she been relieved from her distressing symptoms, in fact they have become aggravated, so that last spring she wished to have her uterus removed, in the hope that this radical measure might break the vicious chain. This operation was actually proposed, but was abandoned by reason of my strong opposition. In the absence of her physician, I was called to see the patient (last June), and found her in a condition bordering on melancholia. The state of erethism was such that her sister was obliged to speak to her sharply two or three times, in my presence, in order to prevent her from having an orgasm. She kept up a peculiar twitching and moving of the thighs while talking with me. The slightest shock, such as the sudden closing of a door or the jar of the floor from a person's moving about the room, was enough to throw her into this state. The poor woman realized her condition keenly and struggled against the constant temptation to masturbate, but in vain; her mind was evidently giving way, she was unable to attend to her duties—in fact, she could not walk across the room without having extreme sexual irritation.

The centre of irritation was now transferred from the lower part of the abdomen to a point near the end of the spine. She felt a constant throbbing sensation in this region, which, "if she gave way to it," as she expressed it, "started up the tickling feeling in front," causing first pleasurable and then painful sensations. Strange to say, she had no inclination to masturbate when in bed. Sexual intercourse had become intolerable because of the extreme
and uncontrollable erethism to which it gave rise. On examination I found the external genitals rather atrophied than hypertrophied, the clitoris and labia being small. The vulvo-vaginal outlet presented that peculiar gaping appearance which is described as characteristic of habitual onanists. The uterus was small, anteflexed, and fairly movable. Behind and somewhat to the left of the organ there was a small induration, sensitive on deep pressure. I was unable to locate the seat of irritation. There was no sexual excitement during the examination, the external genitals being apparently insensitive. I urged the necessity of self-control and the probable need of sending the patient to an institution; if this was impossible, I advised that she should be constantly with an attendant, who might assist her in struggling against temptation. I saw nothing more of her until two months ago, six months having elapsed since my former visit. Her condition was not materially changed. She had no pain on locomotion, but suffered constantly with the burning, throbbing sensation in the back, associated with erethism. She had succeeded in controlling her desire to masturbate, but the temptation was stronger than ever. She had repeated orgasms, followed by pain. She was in great distress of mind and was certain that she would become insane unless relieved. She was willing to submit to any treatment, no matter how radical. On examination I found the external genitals insensitive as before. The uterus was small and anteflexed. Behind and to the left of it there was an elongated, indurated mass, apparently attached to the uterus and corresponding in position with the stump of the left tube. This was sensitive on pressure, and, so far as the patient could determine, seemed to be the centre from which radiated the peculiar burning feelings which she had constantly experienced since the operation, but not before. There was an external point over the lower end of the sacrum to which were also referred the sensations in question; this was insensitive on pressure.

At first sight a second laparotomy seemed to be indicated in this case; but after having the patient under daily observation for eight or ten days, I came to the conclusion that an operation would be even more empirical and liable to failure than those which are usually undertaken for the relief of persistent pelvic pain. Supposing the painful nodule behind the uterus to be the stump of the left tube with included nerve fibres, the question arose, "Would its excision insure against a return of the peculiar pain in the same or some other spot, attended by the same sexual excitement as before?" After studying her case very carefully and using local galvanism daily, I came to the conclusion that she was not a subject for gynecological treatment, either palliative or operative, since her malady had become mental. While under observation in a private institution she developed lobar pneumonia, and was for several days in a critical condition. An
ischio-rectal abscess developed, but it was so deeply seated that it could not be detected until it had ruptured into the rectum. The erythema seemed to be increased by the presence of the abscess. The patient subsequently returned home better than before her entrance into the hospital. A month later she reported that the irritation was less severe and continuous, though at times it was as bad as before. I have heard that she feels quite aggrieved because I declined to remove her uterus—an operation which had been proposed to her.

This case illustrates forcibly the uselessness of removal of the ovaries for the relief of extreme sexual irritation. It also shows that clitoridectomy would have been equally unsuccessful. I can only conceive of one class of patients in which oephorectomy might cure masturbation—where the inclination to indulge in the practice is only felt at the menstrual period. I was once inclined to suggest it in the case of a married lady, who was deeply sensible of the wrong nature of masturbation, but found in it the only means of relieving the severe ovarian pain, associated with intense sexual excitement, which attended menstruation. During the intermenstrual periods the temptation was absent. In this instance, where there was no actual mental perversion, the cessation of menstruation would probably have led to a discontinuance of the habit; but to attempt to cure a patient whose mind is really the seat of the trouble, by inducing the premature menopause, is not in accordance with the ordinary principles of medicine. It would be more logical to cut off her head. We must admit that there is a wide difference between self-abuse in children and young women and the same practice in the case of the unfortunate patient whose history I have detailed. In the former it is simply a bad habit, which may be overcome without strictly medical treatment; in the latter it is just as truly a disease as chronic alcoholism. The entire nervous system is at fault. The irritation which is apparently centred in the external genitals is as difficult to localize as are all the obscure reflex pains in the female. The failure of attempts to relieve these by surgical operations is a matter of daily experience.

Dr. Dudley, having learned from Dr. Coe that the patient had never been pregnant, said that, if she had ever borne a child, there might be a scar-lesion about the clitoris which gave rise to the trouble. But even if she had never been pregnant, he believed that the nerves in the vicinity of the clitoris were diseased. At the same time it was undoubtedly true that after long-continued masturbation the mind became affected. He did not think this case a rare one. He knew of one patient in whom locomotor ataxia developed as a result of masturbation; and yet the woman absolutely denied the habit until she was watched and detected. He remembered another case in the Woman's Hospital. Dr. Emmet removed a stone from the bladder, and there was so much cystitis that he left a catheter in the bladder, for the purpose of washing it out. This woman actually masturbated alongside
of the catheter, and it was found necessary to tie her hands to prevent her from doing it.

Dr. Coe asked, if the disease was located in the nerves about the clitoris, how its existence could be ascertained. In his case there was an entire absence of sensitiveness in the external genitals.

Dr. Dudley replied, from the symptoms and the anatomy of the parts. We know from Quain and other high anatomical authorities that the nerves of the clitoris control the sexual orgasm in the female.

Dr. Coe said that he could not agree with Dr. Dudley as to the limitation of sexual irritation to the clitoris. He had recently been looking over Baker Brown's reports of his cases of clitoridectomy, and the results were not by any means positive or satisfactory.

Dr. Dudley said that every gynecologist knew that if in an examination the parts about the clitoris were touched, it produced an immediate effect upon the patient. He believed that the nerves of the clitoris are primarily affected, and that afterwards the nerves higher up had become implicated.

Dr. Coe said he should like to ask Dr. Dudley whether, in his case, he would have excised the clitoris.

Dr. Dudley said he would most certainly have done so rather than have removed the ovaries and tubes, as was done in this patient.

Dr. Wylie asked Dr. Grandin if this was the case he had referred to earlier in the evening as bearing on the after-effects sometimes met with from removal of the tubes and ovaries.

Dr. Grandin said it was. At one time the seat of trouble was referred to the stump of the pedicle, which was, no doubt, enlarged from plastic deposit. He thought it probable that nerve fibres were included in the deposit, and thus the adhesions became a source of pain.

Dr. Wylie said that he did not think the adhesions had much to do with the trouble. There had probably been a septic thread, and it was this, no doubt, which had given rise to the abscess referred to in the history. He did not think that this case should be cited as one weighing against laparotomy. He himself had never removed the ovaries and tubes for masturbation, and he never expected to do so; nor did he know of any prominent operator who adopted this practice. Neither did he think highly of removal of the clitoris for the prevention of masturbation, and he had never done it himself. He had not made a special study of such cases, and when they came into his hands he usually referred them to some competent neurologist, as he believed the nervous system was at fault and no local treatment was of much avail.

Dr. H. D. Nicoll said that he had seen three or four cases in which the clitoris was removed for masturbation. Two of them had been operated on by the late Dr. Sims simply as a forlorn hope, and the operation had resulted in complete failure. In these cases the tissues about the base of the clitoris, as well as the clitoris itself, had been excised.

Dr. Malcolm McLean said that he had met with two of these unfortunate cases, though in one of them the erethism was not due to masturbation. In this case his attention was directed to the uterus for the existence of menorrhagia; but the use of the
curette was followed by negative results. When he resorted to
the constant current, however, the menorrhagia disappeared, and
with it the annoying orgasms from which the patient had suf-
fered. In the other case, also, the uterus was found to be at
fault, and treatment of the endometritis brought complete relief.

Dr. Grandin said that he saw the case with Dr. Coe, and in his
examination made every effort to see if he could localize the or-
igin of the orgasm in the clitoris, but utterly without success. No
amount of titillation of the parts had any effect whatever in
exciting an orgasm. He could not, therefore, agree with Dr.
Dudley that the removal of the clitoris would have done any
good, and he believed that under the circumstances such an op-
eration would be unjustifiable. He would not by any means quote
the case as one weighing against the performance of laparotomy
for the relief of pyo-salpinx, as to the propriety of which he quite
agreed with Dr. Wylie.

Dr. Dudley said that the point which he wished to make was
that the clitoris was at fault originally; and he believed that if a
minute history of the patient could be obtained from the begin-
ning, this would be found to have been the case. Later on the
erection could be located anywhere. He repeated that in such
cases he would excise the clitoris in preference to removing the
ovaries and tubes. He had often asked patients on whom the latter
operation had been performed in regard to their capacity for sexual
enjoyment, and almost invariably they replied that the erection
was considerably more marked than before the laparotomy was
done.

Dr. Coe said that he did not ask Dr. Dudley whether he would
have removed the clitoris in preference to the ovaries and tubes.
It was to be remembered that it was not he who did the lapar-
atomy, and personally he would not have performed either opera-
tion. Dr. Nicoll's experience confirmed him in his opinion as to
the inadvisability of excising the clitoris.

Dr. von Ramdohr referred to a case he had met with in which
there were no symptoms about the clitoris, but there was a single
point on the os uteri the touching of which would produce an
orgasm. In this instance there was displacement of the uterus.

The President said he believed the more one had to do with
this class of cases, the more he would be inclined to agree with
Dr. Coe and Dr. Wylie that, as a rule, local or operative treat-
ment was of no avail. If there was any local disease present,
however, he would advise its treatment, in the hope that relief
might thus be afforded, and Dr. McLean was certainly to be con-
gratulated on the results obtained in his cases. If there were
much irritation about the clitoris, it might perhaps be well even
to remove the organ, although the experience of Baker Brown
and Sims did not offer much encouragement.

SARCOMA OF THE PELVIS.

Dr. McLean said that at the last meeting of the Society he had
reported a case of extensive sarcoma of the pelvis. It was the
second case that he had ever met with, the first having been seen
about four years ago. He had now to report a third case which
had just come under his observation. It had been represented to
him as a case of bleeding epithelioma of the cervix; but when he
came to make an examination he found the cervix perfectly
healthy. There was metrorrhagia, and a further examination revealed the presence of a large excrescence, which commenced apparently in the ischiatic portion of the pelvis. It was, he believed, a true osteo-sarcoma, beginning in the pelvic bone, and the growth had now existed for about eight months. Such disease, as far as he knew, was quite rare.

Dr. Wylie did not think these cases extremely rare. When cancerous tissue, even if it was not osteo-sarcoma, was located near the bone, it was apt, for some reason, to be very hard. He had met with one very remarkable case in which the diagnosis of osteo-sarcoma of the pelvis was made by several prominent gynecologists, but in which the sequel proved that they were mistaken. The patient was a young girl, and the cancerous growth, which filled the pelvis very tightly, was supposed to start from the sacrum. If, after making an external examination of the patient, he had been asked to give a diagnosis, he would have agreed with the others; but as the patient was young, he thought it would be advisable to open the abdomen and find out just what the condition was. This was accordingly done, and it was then found that the growth was a very hard, solid ovarian tumor with almost two ounces of fluid in the centre and with a long pedicle. If it had not been removed, it would inevitably have destroyed the patient's life. At the end of a year she was alive and perfectly well, and, for aught that he knew, was still.

Dr. Coe referred to a case which he had seen, in which an impacted fibroid was mistaken for pelvic sarcoma.

Dr. McLean said that in the case he had reported there could be no doubt of the diagnosis, as the tumor could be readily felt through the rectum firmly attached to the bone. Dr. Wylie having asked whether it was within or without the peritoneum, he stated that it was unquestionably without the peritoneum.

The President mentioned a case he had met with some time ago, in which there was at first considerable difficulty in arriving at a correct diagnosis. There was, in the first place, impaction of fecal matter in the rectum, and when this was removed it was found that there still remained an exostosis from the sacrum. In addition there was an ovarian tumor, and when the fluid was removed from this (the patient being unwilling to have the growth taken out) there was found also a fibroid of considerable size. There could not have been a sarcoma in this case, because the patient had now been under observation for three or four years.

**HYDROCELE IN INFANTS.**

Dr. A. M. Jacobus reported two cases of hydrocele which he had recently met with in young children, as he believed this was a comparatively rare condition in such subjects. The first case was in a baby seven months old, and was one of hydrocele of the cord, encysted. The other was in a boy two years and a half old, and was a hydrocele of the scrotum. In the latter case the child's mother objected to tapping, and for some time past compound iodine ointment had been used without any appreciable result. In the baby the hydrocele had disappeared under the use of the same ointment. He said he would like to know if any of the other
members had met with similar cases, and, if so, how they treated them.

Dr. Wylie said that he saw a case not long ago in a new-born infant. He transferred the case to Dr. Keyes, and he cured it, though he did not know what method he employed.

The President said he remembered a case which he saw several years ago when connected with Dr. Jacobi's clinic. It was in a child probably five or six years old, and Dr. Jacobi drew off the fluid with a hypodermic needle.

Mental Derangement in the Course of Early Pregnancy and Associated with Subinvolution of the Uterus.

Dr. Wylie said that for several years he had been working on a subject which deeply interested him. He had noticed in certain women a tendency to mental derangement during the first four months of pregnancy, and that while the symptoms usually disappeared at the end of that time, when the uterus rose out of the pelvis, they were very apt to return after parturition and continue until involution of the uterus was completed. He mentioned the case of a lady from Pittsburgh, who had been confined in an insane asylum for six months before she was brought to New York. On making an examination he found the uterus still much enlarged and with a double laceration of the cervix. He softened the uterus and sewed up the lacerations; after which he employed boroglyceride tampons until the involution of the organ was complete, when the patient got well. After the birth of a second child there was a return of the same mental trouble, but the symptoms were mild for many months, and special treatment was not resorted to. When she was first brought to New York the insanity was of a mild type, and she was sent to Dr. Wylie's private Sanitarium. She at once became so violent, however, that he had her transferred to the insane wards of Bellevue Hospital. She was seen in consultation by Dr. Dana, who said that the insanity was epileptiform in character, and also expressed the opinion that the trouble might perhaps be due to uterine irritation. An examination revealed the fact that there was subinvolution of the uterus, and, in addition, disease of the ovaries and tubes. These organs were accordingly removed by laparotomy, and after he had reduced the subinvolution of the uterus the patient went home cured.

The point of special interest in these cases was the appearance of symptoms of insanity during the early part of pregnancy only, and the recurrence of the trouble during subinvolution of the uterus. In one instance he was consulted as to the desirability of bringing on abortion in a patient two months pregnant, who had become affected in this way. He strongly urged, however, that no such step should be taken, as he felt convinced that the symptoms would disappear after the fourth month, and this actually proved the case. After labor there was some return of the trouble,
but as soon as involution was completed it finally disappeared. The same was true in the case of a physician's wife who had recently been under his care.

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**OBSTETRICS AND GYNECOLOGY AT THE KENTUCKY STATE MEDICAL SOCIETY.**

**BY E. S. MCKEE, M.D., CINCINNATI.**

At the meeting of the Kentucky State Medical Society, May 9th, 1889, Dr. J. C. Cecil, of Louisville, made the report on the progress in obstetrics. He favored abdominal section more than electricity in extra-uterine pregnancy. In discussing Cesarean section as opposed to ovariotomy, he quoted authorities deciding that the former was proper in all cases where the child is living. In delivering the after-coming head, he would hasten its delivery with the forceps, even at the expense of the perineum and cervix. In the third stage of labor, he mentioned Berry Hart's theory, and recommended a compromise between Créde and Ahlfeld. He waits until the placenta separates, then, if there is delay, uses the method of Créde. He also ably discussed the subject of antiseptics.

The report on gynecology was made by Dr. Wm. H. Wathen, of Louisville. Pelvic hematocoele was the special subject to which his remarks were directed. He gave the generally accepted definition of hematocoele, as blood tumor in the pelvis, encapsulated within or without the peritoneal cavity. He said that all pelvic hematocoeles were extra-peritoneal, and thus it was impossible for hemorrhage into the peritoneal cavity to become rapidly encysted, so as to form a fixed tumor in the pelvic or abdominal cavity. The blood is mixed with lymph, and coagulates so slowly that it is not confined to any one place in the cavity, but changes its position upon the movements of the body. The blood could not be confined by a layer of effused lymph immediately above it, and, if the hemorrhage into the cavity is at all considerable, death would probably result before it could be confined by adhesions of the superimposed intestines. Intra-peritoneal hemorrhage is nearly always fatal. This is really always caused by primary or secondary rupture of ectopic gestation. Dr. Wathen said that the blood never becomes encysted in intra-peritoneal hemorrhage from defective ligation in laparotomy for removal of the tubes, ovaries, etc. He cites as causes of encapsulated hematocoele sudden metrostaxes of normal menstruation or of pseudo-menstruation following abdominal or pelvic operations and rupture of a tubal pregnancy.
After giving the symptoms and diagnosis of hematocele, he advised against surgical interference, unless the sac should rupture into the peritoneum or suppuration is imminent. He recommended making an opening and giving drainage into the vaginal vault, if fluctuation can be detected from below; if ruptures occur into the peritoneum, or if fluctuation is well marked above the pelvis, abdominal section should be done.

A CASE OF TUBAL PREGNANCY

which advanced to term without rupture was reported by Dr. Arch. Dixon, of Henderson. There was an enlargement which he thought an ovarian cystoma. He determined to make an exploratory laparatomy, and to his surprise opened up a sac which contained a macerated fetus at full term. The post-mortem showed a case of tubal pregnancy with no trace of any rupture. The case was one of exceptional difficulties of diagnosis from the beginning.

A CASE OF TUBAL PREGNANCY

was also reported by Dr. Charles M. Mann, of Nicholasville. This case resulted fatally, and a post-mortem was held.

A CASE OF EXTRA-UTERINE PREGNANCY

was presented in a paper by Dr. J. B. Evans, of Riley's Station.

He thinks the ovule can be impregnated before it reaches the Fallopian tube, and then get into the abdomen. He believes the Fallopian tube can be contracted until it will not admit the passage of the ovule, though it will permit the entrance of the spermatozoids. He reported a case of extra-uterine pregnancy in which a patient suffered long with peritonitis, and passed fetal bones and other structure per rectum.

Dr. W. H. Wathen thought the case of Dr. Dixon certainly exceptional, and could not understand the possibility of the occurrence of an extra-uterine pregnancy which could be carried in the tube for this length of time. The tube walls are so thin and weak that by the twelfth week the tube ruptures and the fetus escapes into the abdominal cavity. He was sorry Dr. Dixon did not make a thorough examination of the lining of the sac. He believed it impossible to absolutely diagnose extra-uterine pregnancy before the twelfth week; it is mere guess-work previous to this time. He agreed with Tait that there is no possibility of an extra-uterine pregnancy unless it occurred in the tube, with possibly a chance for an ovarian pregnancy. An abdominal pregnancy never has and never will occur, and it is ridiculous to talk of an abdominal pregnancy occurring primarily. We have the electrical treatment and the operative treatment. He argued against treatment by electricity, and said, when rupture takes place, operate at once and treat the case antiseptically. If rupture does not occur, then laparatomy is the treatment.
Dr. J. C. Cecil thought a very fine dissection and microscopical examination would be necessary to sustain the diagnosis in the case of Dr. Dixon. He did not agree with the assertion that there are no primary cases of abdominal pregnancy. He thought the only thing that could be done was the performance of abdominal section. The subject was further discussed by Drs. J. M. Foster, of Richmond, and E. S. McKee, of Cincinnati.

**Prolapse of the Ovaries**

was the subject of a paper read by Dr. E. S. McKee, of Cincinnati. He said this was a symptom often, rather than a distinct disease, yet it has many peculiar characteristics which entitle it to separate consideration. He thought the disease much more frequent than usually considered. The dislocation may occur into the lateral pouch of Douglas, the true pouch of Douglas, and the anterior or vesico-uterine pouch, or the infundibulum of the inverted uterus.

Displacement of the ovary usually occurs in this manner: it sinks downward and backward, and describes an arc toward the median line. The Fallopian tube and ovarian ligaments form cords. The descent of the ovary brings it to that part of the pelvic fossa known as the retro-ovarian shelf, where it may remain.

Causes which lead to this trouble may be: increase of weight (which induces traction from below or pressure from above), congestions, displacements (particularly the posterior ones), or violent straining at stool.

Diagnosis is not generally difficult. Marked pain on walking, on coition, and sometimes hysteria and melancholia, with spasms of sickening pain in the pelvis, are described by the patient. She should be examined lying on the left side. Rectal examination permits higher exploration.

The essayist thought Campbell’s knee and chest position of much benefit in the treatment. He said pessaries do more harm than good. Bozeman’s method of columning the vagina is excellent. Tait’s operation had not been followed by the permanent good results expected. He considered Schultze’s method still under inspection. The intestines should be kept empty with some preparation of mercury, and sexual intercourse carefully regulated, if permitted at all. He had seen prolapsed ovaries follow the ascending uterus as it escaped from the pelvis at the fourth month of pregnancy, and remain in their proper places after delivery. Hysterorrhaphy affords relief in some cases, and sometimes, *en dernier ressort*, extirpation is necessary.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

Meeting of February 14th, 1889.

The President, Dr. Giles S. Mitchell, in the Chair.

Dr. Edwin Ricketts read the following paper and case report on

THE ABUSE OF PESSARIES.

It was with interest that I looked through the display of surgical, gynecological, and dental instruments that have been taken from the ruins of Pompeii, and much to my surprise there was not a pessary to be found in the whole valuable collection.

The vaginal speculum that I saw is nicely made and well designed, and the only improvement that our vaginal speculum of to-day has over it is that the blades are wider and are concaved on the inner side.

Other gynecological instruments will do credit to the similar ones of to-day, and I could not help but ask myself the question, "Have we, with our many so-called improved pessaries, made any advancement in the treatment of versions over that of two thousand years ago?"

The indiscriminate use of pessaries by the medical profession in general, is by far too common a practice at the present day, and abdominal surgery is doing good in proving the assertion that pessaries in so many cases have been the source of evil rather than of good.

Versions are common, and are of enough importance to demand interference in exceptional cases, and their discovery is many times accidental.

Versions as the result of adhesions from previous inflammatory processes of the uterus and its appendages, are now better understood, and they are not the cases to be treated by the pessary.

The pessary treatment in many cases is full of dangers, and many simple and perfectly harmless versions of an adherent uterus have been converted into serious cases of pyo-salpinx by the persistent efforts of the pessary-monger.

In the minority of cases wherein mechanical treatment is appropriate, relief may be given the patient, when she is suffering from a choked circulation of the uterus, by elevating the organ; but in the majority of cases the risks of secondary inflammation are greatly increased. By this elevation the relief of symptoms
is many times mistaken for a cure, and in the end the inflammatory process, of which the pessary is the exciting cause, may prove serious, for those patients who do not have these recurring inflammations are the exceptions to the rule.

In conversation with some abdominal surgeons of America, England, and the Continent, I find that many of their cases that have diseased appendages had been treated previously for a variable period of time with pessaries, and in the majority of those cases this method of treatment had increased the severity of the symptoms to such an extent that removal of the damaged appendages was necessary, and this removal, by abdominal section, proved the utter fallacy of the pessary treatment in such cases.

A prominent obstetrician of Cape Town told me recently that while he was on his way to see a patient he was called in and urged to attend a lady in labor, as her obstetrician could not be found.

Upon digital examination he found a large-sized Hodge's pessary, and with difficulty removed it. Finding that the presentation was a normal one, and being in a hurry, the doctor called in an American physician to attend the case and left the house.

After the birth of the child, the American physician wrote the following note to the family physician and left the house:

MY DEAR DOCTOR:—Dr. S. delivered your patient of a huge Hodge's pessary, and I have delivered her of a small child.

Very truly,

Dr. C.

While at Birmingham, England, I called three times within one week at the most prominent surgical-instrument maker's shop, and each time I found the proprietor selling pessaries. After the last purchaser had departed, I inquired and found that three of the purchasers were physicians in good standing in the profession. I said, "How's this that you sell so many pessaries? Do you think so many are needed?" With a twinkle in his eye he told me, after I had promised not to say anything to hurt his trade, that "It is astonishing how many pessaries I sell, and I do not believe that so many are needed, for the reason that many times I am asked the question, by some of the purchasing physicians, which is the top and which the bottom."

The abdominal surgeon and gynecologist should be the first to recognize this very important subject, and yet many times they fail to point out promptly to the general profession this very common abuse of a relatively much-needed instrument, but one which the great bulk of the profession seem to be using as a mere random and routine treatment of pelvic ailments.

The following is a brief history of a case that came to Mr. Lawson Tait's clinic, and which I saw throughout its course:

A.D., age 27, married for over five years; had one child four years ago. Had been ill ever since her confinement, menstruating
about every three weeks; the periods were very profuse and lasted seven days. All exercise aggravated the distress, especially standing or walking, which caused almost unendurable agony. Marital relations were almost unbearable.

The greatest pain was just before her menstrual period began, yet the pain continued to be severe all during her period. In walking she stooped forward in a half-bent position.

She had been in several hospitals, and besides had been under the care of many physicians outside, but had never received any permanent relief; on the contrary, she gradually grew worse.

On introducing the index finger into the vagina, a Hodge's vulcanized ring, which had been adjusted for some supposed misplacement, was found. This was with some difficulty removed, and on further examination the contents of the pelvis were found to be fixed completely—the roof of the pelvis being a hard mass with no softening at any point.

On January 9th, 1888, she came fully prepared to accede to any operative interference that might be advised. Mr. Tait, being fully satisfied that there was existing a double pyo-salpinx, told her that it was necessary to remove the whole of the uterine appendages, to which she readily consented.

The operation was performed just a week later, under absolute cleanliness. It was difficult to recognize the various pelvic organs; the right ovary was first removed, in which was found an abscess containing about three ounces of pus. There were cysts of the left ovary the size of walnuts, and the left tube was in a mass of effusion and contained about a half-ounce of creamy pus. During the operation bleeding was very profuse.

A glass drainage tube was used, and was removed on the ninth day.

The patient made a good recovery, and the uterus returned to its normal position, to which no other method of treatment—certainly none by pessary—could have brought it.

Dr. Hall said he agreed to almost everything the essayist had said in regard to pessaries. He regarded it as a measure which afforded only temporary relief in some cases, but was often productive of mischief. In this connection the speaker desired to state that a microscopical examination of a specimen, which he was not able to present when he reported the case one month ago, revealed an abscess of the ovary. He made this statement here because abscess of this organ is said to be of rare occurrence.

Dr. E. W. Mitchell said that he did not understand the essayist to condemn the pessary in toto, but to enter a protest against its abuse. The speaker's impression of the action of the pessary was derived from a study of Thomas' text-book on gynecology. The pessary is a valuable instrument in proper cases. Many women suffering from displacements are thus again made comfortable and enabled to resume their work. In some instances, after a time the pessary may be dispensed with altogether. Still, it is very liable to abuse; for this reason Bigelow denounces it
altogether, and Emmet regards it as a dangerous instrument if there be any inflammation about the uterus. This is no reason, however, why we should engage in a wholesale condemnation of the pessary. It is indeed sometimes difficult to make a diagnosis between an inflammatory exudation and a retroverted uterus; the *tactus eruditus* is then necessary to answer this point. The injuries that have followed the use of pessaries should be to us necessary warnings that a correct diagnosis must precede the introduction of this instrument.

Dr. T. P. White said that everything has its use. This is true here as well as elsewhere. When properly applied, the pessary does a great deal of good. Of course we cannot cure a salpingitis with the pessary; other measures intended for relief may also be abused, as, for instance, Tait's operation for removal of the appendages, hysterectomy, etc. It requires considerable diagnostic ability to know where to use the pessary. In this respect the paper was wanting: it did not describe when and where to use the pessary, and what kind of pessary should be employed. As portrayed in the paper, it simply describes a physician's incompetency or carelessness.

Dr. Cleveland would like to know how often the pessary was used at the present time compared to formerly. His observation was that it was not so often used; he himself did not resort to it as often as in former years. Midwives introduce them more often than doctors for alleged displacements, sometimes even in the first months of pregnancy.

Dr. McKee seldom resorted to the pessary. He saw an interesting case of its abuse four years ago. An old woman suffered from occasional attacks of vaginal hemorrhage. It was ascertained that she had worn the same pessary for fifteen years, yet she would never submit to an examination so that it could be removed.

Dr. Ramsey said he was disappointed in the tendency of the paper. Not a single, solitary fact was mentioned upon which the essayist based his condemnation. He gave only a vague description of the use of pessaries, whilst his object was to show the abuse by competent physicians. Good men may sometimes make a mistake in diagnosis—the speaker could relate many such instances—but this was no reason why these useful agents should be entirely condemned. In an old woman whose vagina is atrophied, who has an immense cystocele and is unable or unwilling to undergo an operation, a watch-spring pessary will keep up the bladder and render her comparatively comfortable; a wholesale condemnation in such an instance would exclude such a help. Sometimes the round ligaments have become elongated by the weight of the subinvolved uterus and vagina; here the pessary is a powerful auxiliary in keeping up the downward pressure by the weight of these organs. The speaker knew women who had been invalidated and were cured of their displacements by the proper use of pessaries.

Dr. Geo. E. Jones thought that in most instances it required considerable mechanical ingenuity to adjust a pessary properly. He once had an old lady with an immense procidentia uteri. As she could or would not submit to an operation, he had to have recourse to some mechanical contrivance for holding up the prolapsed parts. He was two months in fixing up an instrument before it answered its purpose. He took an ordinary bougie
armed with a wire, bent it so that it would properly fit in the vagina, made a cast of it with block tin, and finally vulcanized it in a dentist's vulcanizer. The patient wore this pessary eighteen months with comfort, when it had to be changed somewhat.

He objected, however, to the use of stem pessaries and the combination pessaries with abdominal supporters. The speaker had seen no less than half a dozen different kinds which were not properly fitted to the patients who wore them. He could, therefore, not join in the entire condemnation of pessaries for this reason. When properly applied, there can be no objection to their use.

Dr. Chas. Reed said that when he started out in practice he was thoroughly imbued with the principles laid down by Graily Hewitt, than which there was never a more pernicious system promulgated. He learned, however, to use the pessary less and less, until finally he abandoned it altogether, because he found that it would never fit, hence was inadequate. To fit properly, it must be moulded to the part, just as Dr. Jones explained. In former years, whilst practising in Hamilton, O., patients would often come from a distance to have a pessary adjusted. He fitted them in the way described, and they served a purpose: but he did not believe they were ever a means of cure. They are rather opposed to a cure, by interfering with nutrition and causing general relaxation. They serve merely a tentative purpose. The cases cited in the paper are illustrative of the abuses. It is a common occurrence for them to be abused in cases of retroflexed fundus or inflamed appendages. One thing must always be insisted upon: A pessary should never be employed until the retroverted or retroflexed organ has been previously replaced.

Dr. Gustav Zinke said he would not speak of those cases where, through mistaken diagnosis, the pessary had been applied, but of instances where the diagnosis was correct and the application of the pessary supposed to give relief. He admitted that in cases of prolapse where a woman was too old or would not submit to an operation, a properly constructed pessary would serve a good purpose. But, in his opinion, based upon experience, no pessary could be so constructed and adjusted, in cases of versions or flexions, as to correct the displaced and distorted organ. A pessary, to remain in position and accomplish the end desired in the class of cases mentioned, would have to be supported in order to sustain the uterus in position, which would require a very firm perineal body or some artificial external support. In cases of the former, the uterus is rarely displaced, and when this occurs experience has proven that permanent relief can be accomplished within a reasonable length of time without the use of the pessary, but with repeated digital reposition of the organ, judicious tamponing, and rest in the genu-pectoral position. Ruptured perineum should be restored. In case of displacement due to subinvolution of the vagina, electricity, tamponing with tannoglycerin, or colporrhaphy have proven effectual remedies. A glance at frozen sections will show that no pessary can correct a version or flexion without a perineal body or some other external support. Indeed, experience justifies the speaker in maintaining that in case of a good perineum the pessary is unnecessary; and where the latter must be held in position by means of a stem
attachment fixed to an abdominal bandage, as in the McIntosh and similar devices, the result is more harm than good.

In the absence of a perineum, and without an external support, the pessary introduced for the purpose of curing a flexion or version of any kind ought to be so constructed as to rest against the symphysis pubis in front and the hollow of the sacrum behind.

However, there is a certain class of cases (prolapse and procidentia) in which the ring-pessary or a sponge in the vagina is palliative (not curative) in its effects. These instruments are held in position by distending the vagina—a method not at all favorable to existing conditions of the organs. It is true that for a time they prevent descent of the uterus, and hence may be resorted to in cases where women will not submit to operative measures, or where there is advanced age or feebleness and where temporary relief only is required. The speaker knew of a case of vesicocele and rectocele accompanied with prolapse amounting almost to procidentia. This patient has worn a sponge for over thirty years, removing, washing, and replacing it daily, which affords her perfect relief, and hence obviates the necessity of submitting to an operation.

Dr. White said, in answer to the previous speaker's remark stating that a pessary could only be properly adjusted if resting on the symphysis in front and sacrum behind, that it required an instrument of at least four inches in length if resting on the promontory, and five inches if the posterior end rests in the hollow of the sacrum. The largest Hodge or Smith pessary only measures about three and a half inches in length, and this is too large for most cases. The womb is supported by the solidity of the perineum and thick fascia.

Dr. Wright said some criticisms had been made against the stem pessaries. In some cases no other instruments could be used, barring an operation. He had now a patient under treatment, very obese and with a flabby abdomen, who had suffered from procidentia a long time. He tried everything he could think of without avail, until he finally had recourse to the cup-and-stem pessary, which fulfilled its purpose.

Dr. Reamy replied that his criticism as well as Dr. Jones' applied to the intra-uterine stem, and not to the stem supporting a cup or ring pessary.

Dr. Reamy said two gentlemen had, in their opposition to pessaries, proposed operations as a substitute for the cure of displacements, giving rise to the inference that the speaker as well as other gentlemen were opposed to operations and regarded the pessary as a substitute. This was not the understanding; the pessary is a valuable auxiliary. The action of the pessary is wrongly understood by certain inventors, who look upon this instrument as a plug to hold up the uterus. The idea advanced by one gentleman, that the uterus must be held up transversely by a pessary laid across the symphysis and sacrum, is entirely erroneous. Albert Smith insisted that his pessary should not rest on the symphysis. A pessary of this nature must rest in the long axis of the vagina, the anterior end resting against the rami of the pubes and the posterior arms passed up well behind the uterus.

Dr. Julia Carpenter said it must be that there was an abuse of pessaries, as the immense quantities manufactured by machinery would not be made if there was no demand for them.

She referred to a case seen in hospital practice. The patient
had had a large metal ring introduced many years before in her native country, Germany. It was imbedded in the tissues, which adhered together over it, except at one point which gave the clue to the trouble. She removed the ring with difficulty, partly due to its large size.

There was, of course, a judicious use of pessaries, notably so in the class of cases referred to by Dr. Reamy. There are times when a patient can pass from a life of invalidism to one of comfort, simply by the use of a proper support. For instance, an elderly lady, 65 years of age, very fleshy, consulted her on account of procidentia, and a train of serious disturbances of which that was the cause. A small, well-fitting pessary and a few treatments restored her to perfect comfort. This was one year ago, and she is still well and wonderfully happy, as she had been an invalid over ten years.

There are general principles to be followed in the use of internal supports. As much weight as possible should be removed from above, as, when that is done, the organs below have a tendency to rectify themselves.

Dr. W. H. Wenning remarked that no objection could be raised against the arguments advanced, both by the essayist and the members who discussed the subject, against the abuse of pessaries: every good thing may be abused. But he was astonished at the crude notions entertained by one of the gentlemen as to the action of the pessary. The idea that the uterus should be forced up out of the pelvis, and held by an artificial barrier resting on the pubes and sacrum, to be effective, is certainly erroneous. Such is perhaps the idea of a midwife or inexperienced physician, but should not be that of a routine gynecologist. Something similar to this is the action of the old Zwanck pessary, which, by its expanding blades resting upon the wings of the ilium, is made to support the prolapsed uterus in a fixed position; but for this very fixedness it is now entirely abandoned. The invention of Hodge, and improvements by Albert Smith, Schultze, and others, mark a new era in the application of pessaries, which previous to that time acted simply as vaginal plugs. The speaker placed himself entirely on the side of Drs. Reamy and White in their explanation of the action of the lever pessary. This instrument, to be safe, must allow a certain movement of the uterus during exercise which naturally belongs to that organ in health, the restricting power being only so much as is necessary to prevent too great a mobility of the womb. For this reason the pessary is more or less curved, which adapts it beautifully to the contour of the fornix vaginae. It is not true that the pessary rests on nothing, for the lower limb rests against the rami of the pubes, and the other against the uterus in the posterior fornix of the vagina. Any pressure exerted against the anterior portion will force up the posterior arch higher into the vaginal vault. The speaker also agreed that a pessary should never be introduced before the organ is replaced: hence it will be inefficient in cases where the uterus is firmly bound down by adhesions. The pessary is not a substitute for operations, but a powerful auxiliary. The speaker would, however, not be understood as to be unequivocally wedded to the instrument: it is unfortunately often a "necessary evil," and must be attentively watched. From inattention to this point arises the abuse spoken of. The speaker always felt some trepidation after he introduced a pessary, and always insisted upon an
early return of his patients for examination. If a pessary appears
to fit well in place and gives to the patient a sense of comfort and
support, it certainly fulfils its purpose; but even then it requires
watching, for the parts may undergo some change, or the instru-
ment itself become accidentally displaced, which, by exerting
pressure in a wrong direction, may cause some irritation. A few
years ago the speaker performed a perineorrhaphy upon a young
married woman. The result did not meet the desired expectation,
and he was forced to introduce the pessary as an auxiliary. The
comfort it afforded was so great that the lady would not part with
the instrument under any consideration. She was, however, cau-
tioned against its possible dangers, and kept under constant sur-
veillance while in the city. She then left for New York, and
while there accidentally displaced the instrument, but was
ashamed to consult a physician. The pain became so intolerable,
however, that with a great effort she succeeded in removing the
instrument, but then experienced again the same sense of bearing
down as before the first introduction. It was again replaced
when she returned to this city, and she removed to Dayton, O.
She was advised by letter to consult Dr. Reese, of that city, for
fear of some other accident. She neglected this, however, until
she had worn the pessary again over a year before it was removed.
Some excoriation was found by Dr. R., and she was treated ac-
cordingly. The last letter received states that she is now able to
get along entirely without a pessary. She had been advised by
the speaker previously to endeavor to discard it, but refused for
fear of the return of the old symptoms.

Now, here was a case which might be called an abuse of the pes-
sary, if it had been simply introduced and the patient allowed to
go her way.

As regards the taking of a cast, the speaker did not think that
absolutely necessary, at least not of the whole vagina. The ob-
ject of this method, which has been described by Levy, of Munich,
in a monograph, is simply to get the shape and direction of the
cervix and fornix vaginae; the shape of the entire vagina is not
necessary, for if a pessary should be moulded according to the
whole canal it would simply be a vaginal plug. Moreover, the
comparison between a dental plate and a properly fitting vaginal
cast does not exactly hold, for the mouth is a rigid, firm structure
to which the plate is to be applied, while the vagina is a soft, pli-
able organ. The pessary should be long, and narrow and curved,
rather than short, flat, and wide; then it will assist the muscles
and thick fascia in supporting the uterus. In conclusion the
speaker stated that he rarely introduced pessaries in his hospital
patients, as he preferred to treat them by tampons, etc., because,
when dismissed with a pessary, they rarely return for re-exami-
nation and inspection. On the whole, he found but little satisfac-
tion from any form of pessary in flexions and anterior displace-
ments, but in prolapsus and retroversion the pessary is often a
very useful instrument.

Dr. Reed replied, in reference to the method of taking a plaster
cast of the vagina, that the upper part of the cast must be hol-
lowed out to give the form of the pessary, and the lower cut off.
The speaker had described this method a few years ago in the
N. Y. Medical Journal, to which he would refer his hearers for
particulars. His criticism on the use of pessaries during this dis-
cussion did not refer to any pessary in particular, as the Albert Smith, but to these instruments in general.

Dr. Ricketts remarked that he must adhere to the views laid down in his paper. There could be no question that these agents are too frequently abused. Their utility in any instance was very questionable; the support a pessary should afford appeared to him like an attempt of a person to lift himself over a fence by pulling on his bootstraps. Whatever could be done by a pessary could also be done by a tampon as well. Aside from those instances of wrong diagnosis in which the use of a pessary is positively injurious, every form of displacement, particularly retroversion, can be remedied just as efficiently by means of the tampon and rest.

Dr. Wenning said, in reply, that certainly the tampon was also one form of a pessary, although of only a temporary character. He would admit that if properly applied and frequently changed it may be made to answer better than any form of pessary, but very few women will submit to a treatment by this plan covering a period of many months, and necessitating the almost daily visit and examination of a physician.

Dr. Reamy rejoined that even the tampon is a poor pessary. He would resort to it as a substitute for the latter, only in those instances in which there was pelvic inflammation.

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**REVIEWS.**

**Electricity in the Diseases of Women.** By G. Betton Massey, M.D., Physician to the Nervous Department of Howard Hospital; late Electro-Therapeutist to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, etc. Illustrated, 8vo, pp. 200. Philadelphia: F. A. Davis, 1889.

This little work is modestly presented to the profession as "the first attempt at a complete treatise on the electrical treatment of the diseases of women." It has certainly, as the writer states in his preface, "more of the nature of a mirror of the author's daily work than of a classical research into the literature of the subject," but this, perhaps, is an advantage when considered from a purely practical point of view. Admitting that the scientific use of the strong current is yet in its infancy, he states that "it is an agent capable of being properly applied without the need of a very great amount of technical skill." The purpose of the book is to show that this necessary skill can be readily gained by any one, if he will but study the remedy in a practical way and use reasonable care in performing the operations. He must also, unfortunately, "consent to abstain from reading any but the most recent works upon electro-therapeutics, as a certain result of a perusal of many of them is a failure to comprehend the present position of electrical science." This last proposition, which could with equal propriety be extended to all other depart-
ments of medicine or science, is so astoundingly narrow in its in-
ception and teaching that we can only account for its existence
by supposing it to be the result of an overlooked typographical
error or illegibility of manuscript.
In the body of the work there are necessarily, from the very
nature of the subject, many points open to criticism, but the work
as a whole, though somewhat elementary and hardly a "complete
treatise," is good, plain, and practical. The apparatus required
for gynecological electrical applications is given in its simplest
form; the slight knowledge of the physical qualities of the gal-
vanic, faradic, and franklinic currents which is absolutely neces-
sary is demonstrated by a few simple experiments and compara-
tive illustrations; and the technique of the applications is carefully
described in each of the conditions where electricity has shown
itself beneficial. The concluding chapter gives the contra-indica-
tions and limitations to the use of strong currents.

BERICHT UEBER DIE THATIGKEIT DER Geburtshulflich-Gynäko-
logenischen Klinik Zu Innsbruck.—REPORT OF THE OBSTETRICAL
AND GYNECOLOGICAL CLINIC AT INNSBRUCK. BY PROF. F.
SCHAUTE, M.D., assisted by DR. FRANZ TORGGLER, Clinical As-
sistant.

This report is the outcome of a long-cherished desire on the part
of Prof. Schaute to collate a history of the work done at the Inns-
bruck clinic, and embraces the period between October 1st, 1881,
and March 31st, 1887. The hope is expressed that the work will
dissipate the notion prevailing in Austria as to the paucity of
material at Innsbruck; the reader may form his own conclusions
as to the justice of this modest wish. During the period men-
tioned 2,302 women were admitted to the obstetrical wards, of
whom 2,183 were delivered at the institution. The claim is made
that the morbidity of this institution—11.5%—is the lowest so far
reported; this percentage, viewed in the light of the unfavorable
equipment of the hospital, is a very gratifying showing. The re-
results following the substitution of corrosive sublimate for carbo-
ic acid are likewise striking; under the employment of carbo-
ic acid as a disinfectant for the dressings, wounds, etc., there was a
mortality of 2.21%; with the use of the bichloride this was re-
duced to 0.21%. The average mortality in the institution was
0.92%. The report abounds in statistics and interesting details,
and will repay perusal.

L. R.

ITEMS.

Dr. Paul F. Mundé has been appointed consulting surgeon
to St. Elizabeth's Hospital, New York.

Dr. H. Marion Sims and Dr. Henry C. Coe have been
elected professors of gynecology at the New York Polyclinic.
Dr. Coe has also been appointed surgeon to the N. Y. Cancer
Hospital.
Dr. L. Emmet Holt and Dr. August Seibert have been elected professors of diseases of children at the New York Polyclinic.

At a meeting of the Faculty of the New York Polyclinic, held June 20th, 1889, the following preamble and resolutions were adopted:

Whereas, This institution has been called upon to mourn the loss of its President, the late Dr. James B. Hunter; therefore be it

Resolved, That in the death of Dr. Hunter the Faculty of the Polyclinic has lost an active, efficient, and conscientious leader, the institution a teacher of rare experience, untiring devotion, and distinguished success.

Resolved, That we recognize that in the abrupt termination of his laborious, able, and worthy career the medical profession has lost one of its most accomplished and honored members, one whose death we profoundly deplore, whose memory we venerate.

Resolved, That we extend to his family our heartiest sympathy, assuring them that we, too, have lost a trusted companion and a loyal friend.

Resolved, That a copy of these resolutions be presented to the family of Dr. Hunter, and that they be published in the New York Medical Journal, the New York Medical Record, and the American Journal of Obstetrics.

Signed,

Paul F. Mundé, 
E. B. Bronson, Committee.
D. B. Delavan,
THE PATHOLOGY OF ECTOPIC PREGNANCY AND PELVIC HEMATOCELE.¹

BY

WM. H. WATHEN, M.D.,
Louisville.

Nearly everything written upon the pathology and treatment of ectopic pregnancy prior to 1880 is of no practical value, and even a brief résumé of the views taught by a few of the then recognized authorities upon this subject would be taxing your patience beyond endurance; so I will pass by the superabundance of this pseudo-scientific material, and hurriedly present to you what I conceive to be the accepted teachings of to-day, based upon thorough scientific examinations of the ectopic gestation sac and its contents in post-mortem examinations and in abdominal sections. And if I come to conclusions not entirely in harmony with the views of such distinguished authorities as Mr. Lawson Tait and others, I beg that you will bear with me and remember that in scientific matters the heterodoxy of to-day may become the orthodoxy of to-morrow. I will not

¹Address of the Chairman of the Section on Obstetrics and Diseases of Women at the Newport meeting of the American Medical Association, June 25th, 1889.
Theorize upon matters about which we know comparatively little, but will try to put facts in logical relation, so that you may judge if my premises and conclusions are correct.

1. The ovum is never impregnated in the uterus, and the conjugation of the male and female elements must take place before, or just after, the ovum enters the tube.

2. Ectopic pregnancy is always primarily tubal, with the possible exception of ovarian pregnancy; the tube ruptures before the fourteenth week into the folds of the broad ligament or into the peritoneum.

3. Abdominal pregnancy cannot occur except as a result of primary or secondary rupture, and if the villous or placental attachments are destroyed the ovum immediately dies, because it cannot form secondary attachments to other structures.

4. If, in rupture into the peritoneum, the ovum retains villous or placental attachments, it may be possible under certain conditions for the pregnancy to continue, though it is not probable. If the amnion is ruptured in the early months, the embryo or fetus will die.

5. So-called interstitial pregnancy does not *always* rupture into the peritoneum; it usually does.

6. If we define pelvic hematoccele as an encysted or confined tumor formed of blood, then intra-peritoneal hematocelle is not possible.

Mr. Tait is a recognized authority upon the pathology and the treatment of ectopic pregnancy, but he is nearly alone in his belief that in normal pregnancy the conjugation of the two elements takes place in the uterus. I have read all he has written upon this subject, and I do not believe that his premises are correct or his conclusions logical; and nearly all the facts that are known about the physiology of reproduction sustain me in this view. His assertion that the spermatozoids cannot pass out through the Fallopian tubes unless disease has destroyed the ciliated epithelium, is based upon no positive evidence, and is contrary to what observations on lower animals have proven. It is true that the tubes in the rabbit, the bitch, and other animals are not identical in shape or position with the Fallopian tubes of woman, but they serve in a degree the same purpose, and some of them are lined with ciliated epithelium, which sustains the same relations to the movement of the spermatozoids. In the bitch, each tube enters the uterus...
by separate communications about as small as the diameter of the cavity of the tubes in woman in their passage through the uterine parenchyma. Desquamative salpingitis, or other diseased conditions of the tubes, may obstruct the passage of an impregnated ovum into the uterus, but would also tend to obstruct the passage of the spermatozoids into the peritoneum, and by no means could such conditions facilitate their passage. The ciliated epithelium has no effect upon the movements of the spermatozoids; they move by an inherent force at a rate estimated by Ch. Robin at .78 inch in ten minutes; by Henle at one inch in seven and one-half minutes; and Sims says they move their length in one second. They would easily overcome any possible obstruction caused by the cilia of the tubes, for Robin has observed that they push out of their way epithelial cells and crystals ten times their size. The inherent power of movement in the spermatozoids is proven in those cases where women have become pregnant with nearly an imperforate hymen and with atresia vaginae, with only a small fistulous and diseased canal leading to the uterus; or where the spermatozoids entered the uterus through the urine in the bladder. In Koeberle’s case the uterus had been amputated two years before for fibroid tumor, and the pregnancy in the tube resulted from the passage of the spermatozoids to the peritoneal cavity through a small fistula in the cicatrix of the cervix. Leopold has demonstrated that one tube may be entirely closed and that an ovum may be impregnated by spermatozoids from the other tube. "He tied the right Fallopian tube in rabbits in two places and excised a portion of the tube between the ligatures; the left ovary was carefully removed, and the abdominal wound was closed. After recovery the rabbits were put to the male. In two such cases pregnancy followed." If the ovum is not impregnated before or just after it enters the tube, degenerative changes will destroy its vitality before it reaches the uterus; and it is claimed by recognized authorities, including Charpentier, that after it passes the outer third of the tube it is covered by a layer of albumin which the spermatozoids cannot pierce. Coste, in his observations upon rabbits, found the unimpregnated ovum in the cornu of the uterus so densely covered by a zone of albumin that the spermatozoids could not enter it, though they were found in great numbers immediately in contact with it. The impregnated ovum in the guinea-pig
Wathen: Pathology of Ectopic

does not enter the uterms for three or four days, and in the bitch it does not enter for nine or ten days; by analogy we may infer that in woman it passes slowly through the tube, and is probably not in the uterms before the tenth day after impregnation. During this time the endometrium becomes succulent and thickened to give a proper nidus upon which the ovum may attach itself, and from which it may be nourished. This causes the ovum to be caught and held near the fundus uteri by the swollen tissues until fixation occurs. If the surfaces of the endometrium were not held in immediate contact, the ovum would gravitate to the lower segment of the uterms, where it would become attached and cause placenta previa, or it would pass out into the vagina.

The ovum cannot form villous attachments until it is held immovably in the maternal structures, and this is not possible except in the tube or the uterus. If the ovum fails to enter the tube, it will soon perish in the abdominal cavity and then be absorbed, for it cannot fix itself to the peritoneum, as this and surrounding structures are in nearly constant motion. Many cases of ovarian pregnancy have been reported, and some of them by men of more than national reputation, including the names of Campbell, Spiegelberg, Kiwisch, Puech, and Leopold, but their conclusions are based upon insufficient evidence, and it has probably not been positively shown that any specimen was an ovarian pregnancy. This cannot be determined except by a thorough microscopical examination of tissues from all parts of the gestation sac by a careful and well-trained microscopist. An ovary may be greatly enlarged by cystic growth, but we can always identify the origin of the tumor by a microscopical examination.

In none of the reported cases of ovarian pregnancy had ovarian stroma been found, except confined to one side of the sac, and this condition may readily occur in cases of tubal pregnancy that have ruptured into the folds of the broad ligament; but the stroma should be found in all parts of the sac were the pregnancy ovarian. An examination into the history of most of these cases, and of the specimens that have been preserved, will exclude them from the list of ovarian pregnancy. But few of the specimens have been preserved, while those reported by Campbell have all disappeared, and the descriptions of them cannot be accepted because of their great antiquity. In
Spiegelberg's case, I believe the pregnancy was in the folds of the broad ligament, and pressure upon the ovary caused it to spread over and form a part of one side of the sac." In the case reported by Puech, there is no positive proof that the specimen was an ectopic pregnancy, as no characteristic embryo was found. Mr. Tait says, "Not one of the reported cases has been subjected to the necessary conditions of criticism, a satisfactory compliance with which alone can establish the occurrence of ovarian pregnancy." And he has closely examined all cases reported. He also reminds us that tubal pregnancy may so distort or change the natural conditions of the tube or ovary that their existence cannot always be demonstrated; hence the belief in ovarian pregnancy.

In Parry's statistics we find cases of ovarian and abdominal pregnancy recorded; but as these statistics were collected from imperfect or mutilated records made by men of no experience in microscopical and pathological research, they are practically of no value as evidence to prove that pregnancy may primarily occur outside of the tube. Ectopic pregnancy may occur at any point in the tube from a little distance within the fimbriated extremity to the uterine cavity, and is caused by partial or complete closure of any part of the tube, usually the result of desquamative salpingitis, but sometimes the result of other pathological conditions. The tube ruptures into the folds of the broad ligament or into the peritoneum before the end of the fourteenth week. There are a few cases reported where it is claimed that tubal pregnancy continued to term without rupture, but the powers of observation in the men who made these reports were defective, and these were cases of rupture into the folds of the broad ligament when the sac was small.

The report of a case of tubal pregnancy continuing till term was recently made to the Kentucky State Medical Society, but the gentleman who made the report admitted that he was not positive in his diagnosis, not having made a careful examination by the microscope; and this is about the history of all these cases. The rupture is usually into the folds of the broad ligament, where the pregnancy may continue even to term, if the ovum retains villous attachments and the amnion is not ruptured; or it may rupture secondarily into the peritoneum and cause death, if not speedily removed by laparotomy. Sometimes
the tube ruptures primarily into the peritoneum, resulting in death unless the sac is ligated and removed.

I again refer to the fact that primary intra-peritoneal pregnancy is impossible, because the ovum cannot be held securely in any one place, and hence cannot unite itself to maternal structures by villous attachment, and must finally perish for want of nutrition. The following is on page 59 of Mr. Tait’s “Lectures on Ectopic Pregnancy”: “If the pregnancy had ruptured its way into the peritoneum, it would have been at once digested, for I am certain, from what I know of the digestive powers of the abdomen, no gelatinous fetus of the tenth week could resist them.” The abdomen cannot digest a fecundated ovum at any stage of its development until it has become dead matter, the result of other causes; it first dies and then is absorbed by the peritoneum, for living matter cannot be absorbed as such by the peritoneum. While it may be possible for the ovum to continue to develop in the peritoneum after rupture of a tubal pregnancy, I doubt if the evidence in any of the reported cases is absolutely conclusive.

If the woman survives the hemorrhage, shock, or septicemia, the pregnancy could not continue, unless the villous or placental attachments to the tube are not separated; for if these relations are destroyed, the embryo or fetus dies immediately of asphyxia, just as it does where the placenta is separated in intra-uterine pregnancy. It is a sad commentary upon the intelligence of members of the medical profession to quote the following case of Dr. James Braithwaite, of Leeds, as one of secondary abdominal pregnancy: “It seems pretty clear that in my second case the placenta was detached from its original position and took root again in a fresh one.” No one could arrive at such a conclusion except he be totally ignorant of even the elementary principles involved in the physiology or pathology of reproduction. It could just as easily have taken root upon the top of her head, for a placenta once separated is always separated. It is a recognized fact that the placenta in extra-uterine pregnancy may make epiphytic inroads on adjacent or surrounding tissues, but this must occur before it is separated from its original attachment.

The placenta may, in extra-peritoneal pregnancy, finally attach itself to the uterus, omentum, intestines, pelvic and abdominal walls, etc., by stripping off and carrying a layer of peri-
Pregnancy and Pelvic Hematocele.

Pregnancy before it, and many of these cases have been reported as abdominal pregnancy. In primary or secondary rupture of a tubal pregnancy into the peritoneum, the ovum will perish unless it retains its attachments and the amnion remains intact. In the latter months of pregnancy, the ovum may possibly continue to develop in the abdomen after rupture of the amnion. Jessop, Lechuyse, Matecki, and Schreyer claim to have seen such cases, but the correctness of their diagnoses is not generally accepted. Jessop's case appears to be the most reliable, but Mr. Tait, in speaking of it, makes the following statement: "I have placed this case by itself, because it is the only one of its kind, and the only one which, after critical investigation, will admit of being termed 'abdominal' or intra-peritoneal pregnancy. Certainly those quoted by Parry will not do so, and I have met with no others."

Koeberle's and Kellar's cases, where the body of the uterus had been amputated, have been given as intra-peritoneal pregnancies, but they are typical cases of tubal pregnancy. Part of the tubes was left with the ovaries, and in an obstructed tube the ovum became imprisoned and was developed.

While interstitial pregnancy usually ruptures into the abdominal cavity, I cannot agree with Mr. Tait that it always does so, and I am sure there are cases that justify this belief. In my discussion before the American Association of Obstetricians and Gynecologists at the meeting in Washington in September, 1888, I reported a case, treated in 1873, which I think was clearly shown to be interstitial pregnancy that ruptured into the uterus. Thomas' fourteenth case, and Parkes' case (American Journal of Obstetrics, vol. xx., page 536), and Maschka's case (Wien. med. Wochenschrift, 1885) were not cases of rupture into the peritoneum.

Pelvic hematocoele sustains such intimate relations to ectopic pregnancy that it is not possible to describe the pathology of one of these complications without referring to the other; hence my reason for considering these two subjects together.

The generally accepted meaning of pelvic hematocoele is an encysted intra-peritoneal or extra-peritoneal blood tumor in the pelvis, which may extend into the abdominal region. Thomas says that intra-peritoneal hematocoele is much the more frequent, and Gill Wylie believes that any considerable effusions of blood in the pelvis are always intra-peritoneal. Nearly every author
who has written upon pelvic hematocoele teaches that blood may accumulate in the peritoneal cavity and become rapidly en- cysted and fixed by the effusion of a layer of lymph exudation. Mr. Tait and a few other authorities do not adhere to this be- lief; nor do I. It is impossible for an accumulation of blood in the peritoneum to become encapsulated so as to form a well- defined tumor in the pelvic or the abdominal cavity. Hemmor- rhage into the peritoneum causes an increased flow of serum, which encourages bleeding by further diluting the blood and thus preventing quick coagulation. It obeys the laws of gravi- tation and may change its position upon the movements of the body, so that it cannot be confined by a layer of effused lymph. Mr. Tait has seen nearly one hundred cases of intra- peritoneal hemorrhage, and they all died except the two upon whom he did abdominal section; and in post-mortem examina- tion there was no fixed blood tumor, and but little, if any, peri- tonitis. Such cases are nearly invariably fatal. If the woman does not die of shock caused by pain and loss of blood, she may die of septic infection. If it were possible to have encysted intra-peritoneal hematocoele, why does it never occur after ab- dominal sections for the removal of a diseased tube, ovary, or uterus?

There are numerous cases reported of hemorrhage into the peritoneum, after abdominal section, where ligation or suturing was imperfect, but in no instance has this blood been found encysted. Encysted hematocoele may result from a sudden ces- sation of a pseudo-menstruation that sometimes follows laparotomy, but the blood is poured out into the areolar tissues under the peritoneum and does not enter the cavity.

The fact that a blood tumor extends above the pelvis, or even to the umbilicus, does not indicate that the hemorrhage is in- peritoneal. This may occur in extra-peritoneal hematocoele. The peritoneum is a tough and elastic membrane, easily sepa- rated from its attachments, and hemorrhage into the loose pel- vic connective tissue may dissect up the layers between the rec- tum and vagina, around the rectum, from its attachments to the sides of the pelvis or anterior abdominal wall, etc.

I have recently treated two patients with extra-peritoneal hematocoele; in one, the tumor was between the folds of the broad ligament, the rectum and vagina, and around the rectum, causing annular constriction. It could not be easily felt above
the pelvis. In the other, there was no tumor between the rectum and vagina, nor was there much effusion around the rectum, but the enlargement extended up nearly to the umbilicus. In intra-peritoneal hemorrhage, no well-defined and fixed tumor can be felt per vaginam or by abdominal palpation, while in extra-peritoneal hemorrhage the subjective and objective symptoms, when carefully observed, are so nearly pathognomonic that an error in diagnosis is hardly possible. Intra-peritoneal hemorrhage is nearly always caused by primary or secondary rupture of a tubal pregnancy; and while it is barely possible to diagnosticate an accumulation of blood in the peritoneum in a physical examination, the history of the case, the profound shock, and other evidences of internal hemorrhage will usually enable us to make a correct diagnosis. For this condition, abdominal section and ligation of bleeding vessels is the treatment indicated.

But I will dismiss this part of the subject and confine my further remarks to encysted or confined pelvic hematocoele, which is always outside of the peritoneum. This may be caused by sudden metrostaxis of normal menstruation, or pseudo-menstruation following abdominal or pelvic operations, or by rupture of a tubal pregnancy into the folds of the broad ligament. The diagnosis can usually be made by observing the following symptoms: Sudden access of pain, and generally shock; a well-marked feeling of faintness, with accelerated pulse, and sometimes elevation of temperature.

The sudden development of a tumor in the folds of one broad ligament, or upon both sides of the uterums, fixing the organ, or between the rectum and the vagina, or above the pelvis, would exclude inflammatory effusion. The hematocoele does not always extend high enough to be distinctly felt above the pelvis, but it often causes a well-defined rounded and fluctuating tumor that may extend as high up as the umbilicus. The distinct vaulting of the upper surface of the tumor, the accumulation of blood around the rectum causing annular constriction, the concave vaulting of the lower surface of the tumor, and the sudden fixation of the uterums, are characteristic signs of extra-peritoneal hematocoele which, if carefully observed by an experienced gynecologist, would prevent error in diagnosis, if he sees the woman very soon after the tumor
has formed. Errors in diagnosis may occur if he does not see the patient for some days after the hemorrhage.

Extra-peritoneal hematocele nearly always results in speedy recovery, if the woman is kept quiet in bed, and her bowels, bladder, etc., are properly attended to. Within two or three weeks, most of the blood will have been absorbed and convalescence well established. As it is quite exceptional that suppuration or rupture into the peritoneum occurs, surgical interference is not often necessary; but if the subjective or the objective symptoms indicate the presence of either of these conditions, then the abdominal cavity, or the hematocele, should be opened, thoroughly cleansed, and a drainage tube inserted. If in suppuration the fluctuation can be detected through the vagina, it is best to enter the tumor through the vaginal vault; but if no fluctuation can be discovered in a vaginal examination, but is felt above the pelvis, laparotomy should be done and a drainage tube used in the lowest part of the wound. If the sac ruptures into the peritoneum, laparotomy should be done immediately.

A YEAR'S EXPERIENCE WITH APOSTOLI'S METHOD, WITH REPORTS OF CASES.

BY

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Having begun the use of Apostoli's method about the month of October, 1887, and having had an almost daily experience with it ever since, and some nine months having elapsed since the termination of the year, I am perhaps justified in now laying my experience in this most interesting department of gynecological therapeutics before the profession. Before I began the use of it, I had a somewhat too exalted opinion as to its value. This was followed by the usual reaction, and, being brought face to face with a number of cases noted for their difficulty, I became a little discouraged. Later on, as the benefits of the
treatment began to slowly but surely mount up with the increasing number of cases, a firm and lasting belief in its capabilities has been acquired. I mention these three phases of opinion of the treatment because I see around me evidences that my confrères who are trying it are going through the same stages. In the following remarks, I shall endeavor to give the treatment its true and well-earned place, as I believe it is as much in its interest to avoid forming an erroneously high opinion of it as it would be to decry it altogether.

For the information of my brethren who are seeking knowledge as to the best method of going about this treatment, it might be well to lay before them a few points which experience has taught me. In several former articles, I have given the Leclanché conglomerate cell as the source of electricity. I am now altogether willing to admit that the old pattern of Leclanché cell with a porous cup, which can be purchased in quantities in the United States for about half a dollar apiece, is quite as good for this purpose; also that the improved Law battery will do equally well. I may state that thirty cells will give enough power for general use, owing to improvements, which I shall shortly describe, for conveying the current to the morbid growth. The cells should be arranged with the zines pointing to the right—the first zinc being attached to the second carbon, and the second zinc to the third carbon, and so on. The beginner should remember that the wire from the first carbon is called the positive pole, and the wire from the last zinc the negative pole.

The next question to be asked is: What is the best appliance for turning the current on and off? During the first year in which I used this method of treatment, I employed the Gaiffe current collector which I brought from Paris, and which was similar to that used by Apostoli; but after hearing of the Bailey rheostat, I procured one, and a very short trial of it convinced me that it was far superior to the Paris instrument. The disadvantage of the double-dial collector of Gaiffe is that you have a wire going from each cell to the switchboard, so that you have as many sources of danger of a broken connection as there are contact points. In the one I used, there were 120 contact points and consequently 120 places at which the current might be accidentally broken. This accident, in fact, has actually happened to me on several occasions. Since I have
adopted the Bailey rheostat, the current has always been turned on and off with perfect smoothness, and with it I have been able to make the finest possible adjustment from one to over two hundred milliampères.

Another defect of the switchboard collector is that the first ten or fifteen cells, being used more than the next ten or fifteen, are run down to one-half or one-quarter of the strength of the latter; so that, no matter what care be taken to run down all the cells equally, we cannot avoid occasionally striking a very weak or very strong cell—in some cases the difference in strength caused by adding another cell to the circuit being sufficient to cause an appreciable shock. With the Bailey rheostat all the cells are worked equally at the same time, so that with ordinary use the battery requires almost no attention during the first one or two years, and then all the cells must be recharged together.

The Bailey rheostat is manufactured by the Law Telephone Company, Liberty street, New York. Should the ratchet on this instrument become too loose, it must be tightened up with the screw provided for the purpose, otherwise its weight might cause the carbons to drop an inch or two into the water without our wishing it.

We now come to the important question of the best galvanometer. My own experience has been limited to Gaiffe’s instrument, of which I have two, one measuring from one to fifty milliampères, and the other from ten to two hundred and fifty. The former has of course proportionately larger spaces for each milliampère. I am in a position to state, from information which I have received from a number of correspondents in the United States, that the Gaiffe instrument is far superior in accuracy to any instrument so far manufactured in this country, although I can see no reason why such an instrument should not be made here. In the meantime, I can recommend any one purchasing an outfit to obtain that part of it, at any rate, from Paris.

It might be well to mention, with regard to the galvanometer, that the needle which registers the strength of the current on the scale is only a nickel one, fastened at right angles to the real magnetic needle, which is concealed under the coil of wire. I mention this because some of my confrères, who knew where the north and south poles in their city were situated,
spent some time in vainly trying to get the needle of the galvanometer to point in those directions. It is also important that no steel instrument, such as dressing-forceps or scissors, nor any faradic machine, be allowed to lie near the galvanometer when it is in use. Care must be taken, too, that no magnetic machines be placed in its vicinity. A place should be chosen for it as far removed from iron pipes as possible. It is also desirable that the galvanometer be placed considerably below the level of the patient, so that while sitting in front of her we may keep our eye constantly on the needle.

The current, having been led from the first carbon through the artificial resistance of the rheostat and then through the galvanometer, must now be made to enter the patient so as to encounter the least amount of friction; for friction means heat, and, unless the surface of contact of the electrode with the skin be very large, a high power cannot be used, owing to the burning, and even vesication, which it produces. In this consists one of the great secrets of Apostoli's success.

By means of his abdominal electrode of moist potter's clay, which adapts itself to the open mouth of every pore of the skin, the electrical current finds its way into the body through many thousand pores, and thus resistance to its entrance is reduced to a minimum.

Martin, of Chicago, has introduced a modified electrode, of the same size, however, as Apostoli's, but differing from it in that, instead of a flat cake of clay to which the pole is attached by means of a piece of zinc, a metal dish filled with water and covered with animal membrane is employed.

Engelmann uses a piece of absorbent cotton loosely sewed to several thicknesses of tinfoil, to which the wire is attached. The advantage of Apostoli's clay is that its weight is sufficient to keep it applied closely to the skin; but its disadvantages are that it is apt to soil the clothes, has a constant tendency to dry unless frequently moistened, and feels very cold when applied to the skin unless previously warmed, it being as good an abstractor of heat as it is a conductor of electricity. If it is warmed before its application it is apt to dry up, while if it is immersed in hot water it is apt to wash away.

Martin's electrode is neat and clean, and if, when not in use, it is left with the animal membrane immersed in bichloride solution, it will not soon get an unpleasant odor or putrefy. Some
of the water can easily be poured out each time and some boiling water introduced so as to make it pleasantly warm; but some day when we least expect it, and during an application, it will play us false, for a tiny hole will appear through which the contained water will escape over the patient's clothing. After this accident had occurred to me several times, I determined to discard the animal membrane and to employ a combination of Apostoli's and Martin's electrodes by filling Martin's metal dish with Apostoli's clay and covering it with one or two layers of gauze. The result has been all that I could desire. The clay, being contained in the metal dish, does not escape upon the patient's clothing and is not difficult to apply. Instead of mixing the potter's clay with water only, I have added from one-third to one-half of glycerin, which, owing to its great avidity for moisture, will always keep the clay wet, so that I am no longer in danger of finding that my clay has dried up during the night. As an extra precaution, I am in the habit of wrapping up my abdominal electrode in a large sheet of gutta-percha tissue or oiled silk, into which I throw an ounce or so of water to supply the thirst of the glycerin.

This electrode weighs four or five pounds, which is sufficiently heavy to guarantee its close application to the abdominal integument, and does away with the danger which I have several times experienced, of the patient's suddenly removing her hands in order to gesticulate while talking to me during the application.

Martin's instrument is somewhat expensive, so that, to meet the wants of those to whom expense was a consideration, I had the same thing manufactured by a local tinsmith for forty cents apiece, thus enabling me to have three or four; some with projecting surfaces of clay for the abdomen of thin women, others with more or less hollow surfaces, according to the prominence of the abdomen or of any part of it. For instance, in a case where a large fibroid is projecting prominently, I apply an abdominal plate, very much hollowed out, which fits on top of the tumor like a cap. Any tinsmith can convert deep pie-plates into Martin's electrodes by soldering on to the rim a corrugated flange and attaching a binding post and screw to the bottom of the plate. A piece of rubber tape or bandage must be fastened around the edge to prevent the metal from burning. The current, having entered the body, we will suppose, by the abdom-
inal positive pole, pours through like a fine, invisible rain from every part of the clay in a direct line towards the other pole, which, we will say, is the negative one, in the uterus. If we could see it, it would look very like the spokes of a wheel running from the tire towards the hub. This will explain the condensation of force which takes place when the exposed surface of the electrode in the uterus is very much smaller than the surface on the abdomen, and, for this reason, the electrode in the uterus is called the active pole.

When it is desired to produce a cauterizing effect, either positive or negative, this can be obtained by making the exposed surface in the uterus exceedingly small; for Martin has proved that it requires fifty milliamperes to one square centimetre of surface during a period of five minutes in order to obtain a cauterizing effect. Where a cauterizing effect is desired, there is every advantage in making the surface of the internal electrode as small as possible; but, in cases where we wish to obtain the greatest possible interpolar action, we should make the internal as well as the external electrode as large as possible. Of course, if the internal electrode is connected with the positive pole, either gold or platinum must be employed, and the cost of these precious metals acts as a barrier to their being used. To overcome this objection, Apostoli has lately introduced graduated carbon electrodes containing one, two, three, four and more centimetres of surface, with which he is able to treat successively different portions of the intra-uterine mucous membrane. These carbon electrodes have another advantage in that they do not cauterize the cervical canal when it is our desire to only treat the lining membrane of the uterine cavity.

He has also invented another means of applying electricity to the interior of the uterus by means of a substance called gelosin—a semi-solid vegetable material, which is injected into the uterus so as to touch the whole mucous membrane. It does for the interior of the uterus what the clay does for the abdomen—enlarges the surface of contact.

Dr. Goelet, of New York, has recently introduced a steel sound which, owing to the peculiar manner in which it is prepared, is able to withstand the action of acids. As it is cheap and is a good conductor, it should supersede the costly platinum sounds and trocars which have hitherto been in use. I lay consider-
able stress on these points of diminishing the cost of necessary apparatus, as I have no doubt that the great expense of the armamentarium hitherto necessary has prevented many of the most wide-awake and progressive practitioners from possessing an outfit.

When the negative pole is used in the uterus, the ordinary intra-uterine sound, with a hole in the handle for connecting the wire from the negative pole, is all that is required. I have a number of them, curved to different degrees, always standing with their insulators in a carbolic solution, and I soon become familiar with the curves in the uterine canal of each patient, and choose the sound which suits her best. If you have only one sound, it soon becomes cracked by frequent bending. The negative pole is bathed in alkalies, which only brighten its polish.

In dysmenorrhea from stenosis of the internal os, the softening and dilating influence of the negative pole has been thoroughly established. In cases of fibroid in which the dysmenorrhea is a more marked symptom than the bleeding, I also prefer the negative pole in the uterus, which, I fancy, can be tolerated stronger than the positive. But when there is hemorrhage, the positive pole is decidedly indicated. Nevertheless, I have frequently observed the duration of menstruation to be rapidly diminished by the use of the negative pole. The positive pole also seems to have a more tonic effect on the system generally.

I now come to another point, namely, the necessity for irritation before and after each application. During the first year I used this method, I spent a great deal of time in giving each patient a vaginal antiseptic douche, not only before but after every application; and perhaps, if one is apt to produce a lesion of the uterine lining membrane, it would be well to take that precaution. But having learned from several of my confrères whom I have induced to adopt Apostoli's method, that they had modified without bad effects the rigor of his instructions, I have for the last few months been contenting myself with swabbing out the vagina with a one-in-one-thousand bichloride solution before and after each application when the speculum has been used; or with ordering a weak sublimate injection to be given by the patient herself at her home before and after each application when the speculum cannot be employed.
As for the duration and frequency of applications, I have generally tried to give them every second day when I had time or as long as the patient was able to come. As a rule, the treatment of out-patients is often enough interrupted, so that it is unusual to be able to get, on an average, more than eight or ten applications a month. Most of my cases felt so well the next and following days after an application that they were anxious to come back. I have also noticed that the strength of current which a given patient could comfortably endure gradually increased with each application. No rule for the strength of current can be laid down. I give the patient all she can bear; but the moment I see by her face that she is beginning to suffer a little, I reduce the current, as I do not think anything is to be gained by giving a current strength which they would have any reason to dread. Apostoli says in his work on "Treatment of Endometritis" (p. 74): “Could we not, in order to render the operation still more harmless, if possible, and at any rate extinguish all operative sensibility, diminish the dose by lowering the intensity to thirty or forty milliamperes, for instance, and increase in proportion the duration of the application, in order to render always the same the sum of the electric outflow?" He answers this question in the negative in the case of endometritis, because in that particular disease it is the intense local action which is required. But in electrolysis I see no reason why one hundred milliamperes for ten minutes should not be as effective as two hundred for five minutes.

Indeed, I believe that some way will yet be devised for passing a comparatively weak current through the tumor day and night, and thus procure the electrolysis of the largest tumor in the course of a few days. As far as electrolysis is concerned, ten milliamperes during one hundred minutes would be as effective as one hundred milliamperes during ten minutes. I have devised a plan by which a small battery is placed under the bed, and the current is carried to the front and back of the tumor, but I have not yet been able to give this method an extended trial.

What about galvano-punctures? Although my experience with them has been limited, I have seen enough of them to be able to say that the less frequently they have to be resorted to the better, and then only at the patient's home or at the hospital,
but, with one exception, never at the office; first of all, because they are exceedingly painful, and, second, because the after-condition of the patient is such as to cause considerable anxiety. In the case of Mrs. D., I tried galvano-punctures many times before I was able to pass the sound, and I found that anything more than thirty milliampères could not be borne for more than a minute or two. I also tried them many times in the case of Mrs. T., who was unable to bear more than twenty milliampères without an anesthetic. Besides the pain caused by the activity of the current being concentrated on so small a surface as the point of a trocar (for the electro-chemical action is always in direct proportion to the size of surface for a given milliampère), there must also be taken into account the suffering caused by piercing the vagina and the sometimes very sensitive tumor itself. In many cases, the patient cannot bear to have her tumor touched, far less to have the trocar thrust into it. In any case when a puncture is to be made, it is well to have the tumor steadied by a firm hand on the abdominal wall, to press it down towards the trocar. Even when an anesthetic is employed and a sufficiently high current is turned on, say of two hundred milliampères for five minutes, powerful contractions of the intestines are set up, which continue long afterwards, amounting in some cases to torrmina. These may be diminished but not entirely avoided by augmenting and decreasing the strength of the current very gradually, and by administering a hypodermic of morphia previously. In the case of Mrs. T., who had an insuperable repugnance to the drug and refused to take it, these griping pains were terrible and lasted for two days afterwards. By keeping the patient in bed for two days after the puncture and applying emollient applications to the abdomen, and by giving antiseptic injections, the punctures are free from danger, and in Apostoli's hands are very successful. Martin, of Chicago, never uses them, and I much prefer the intra-uterine applications, which are much safer and hardly at all painful. Some of my patients have frequently borne two hundred and fifty milliampères for five minutes without an anesthetic. They are safer because they may generally be performed without causing the slightest lesion of the uterine mucous membrane. It is now a rare occurrence for me to draw one drop of blood when introducing the sound, after the first application. But there is one case in which the intra-
uterine applications are powerless—when the tumor lies altogether outside of the line of the cone-shaped current, the apex of which is at the sound and the base at the clay. In three of my most obstinate cases, all the morbid growth in the anterior wall of the uterums was absorbed, because I could feel the tip of the intra-uterine sound under my finger on the abdomen. In one of them, Madame D., I then began to place the clay electrode on the back, so as to take in the posterior half of the tumor between it and the sound, with the result that the posterior half of the tumor also rapidly disappeared. I think this observation, if correct, important, as it would explain why I and others have failed in certain cases to obtain absorption of the whole of the tumor.

As Mr. Tait and Dr. Bantock, at a recent meeting of the British Gynecological Society, made the statement that a fibroid tumor could not be electrolyzed, that is, decomposed into its constituent elements, by any amount of current which it was possible to bear—two hundred milliamperes, for instance, for five minutes—I proceeded with my galvanometer and rheostat to an electro-plating establishment and interposed them in the circuit while the process was going on, when to my surprise I found that two and a half milliamperes was the greatest strength they ever employed. In fact, a copper article was completely coated with silver in five minutes with a current of that strength, which on being weighed showed that an equivalent of two grains of cyanide had been decomposed. Now, if two grains are decomposed by two and a half milliamperes in five minutes, four hundred and eighty grains would be decomposed in eleven minutes by two hundred and fifty milliamperes. So that sixteen applications of eleven minutes with a current strength of two hundred and fifty milliamperes would decompose one pound weight of the tumor. Whether a tumor outside of the body would lose that amount of weight in that time and with that current strength is a different thing; for in the living body, as is well known, there are the thousands of open-mouthed lymphatics ready to seize upon and carry away the products of decomposition, while in the dead tumor this would not be the case and the products of electrolysis would not be removed, so that the weight might not appear very different.

But, besides the electrolytic action of the continuous current, we have the remarkable effect which it has on the trophic
nerves—an action which would lead us to believe that the electric current is very similar to the vital current. These trophic nerves preside over the quantity of blood flowing in the vessels and the interchange of material in the tissues, as well as the absorption of foreign matter by the lymphatics. We know that it very much depends on the amount of nervous influence which the cells receive as to whether they shall keep up to the normal or degenerate. From the consideration of the history of the cases of fibroids which have come under my notice, I have been led to consider that fibroids are primarily due to defective vitality of the uterus accompanied by slowing of the circulation. And the difference between fibroids and areolar hyperplasia is only one of greater or less localization. Thus, if an impediment occurs to the circulation of the uterus—and we all know how great these impediments are in modern women, with their tight corsets, their heavy draperies, their engorged livers, their constipated bowels, and their want of exercise—if any of these causes prevent the blood from returning from the uterus, it is dammed back in the uterine veins and arteries, from which a fibro-plastic material exudes. If the absorbents are active, this may be carried off; if not, it will remain and after a time become organized into white fibrous tissue. This, small as it may be, is a foreign body and still further obstructs the circulation, so that it goes on increasing. At last it reaches a size sufficient for the uterus to take cognizance of, when, as is customary with that organ, the intruder is promptly expelled either towards the peritoneum or towards the cavity of the uterus in the line of least resistance, dragging with it the vessels from which it was first exuded, and from which it continues to receive its nourishment. In every case of fibroid which I have had under my care, the patient had always been constipated, and nearly all of them were of sedentary or intellectual occupations. Then, again, nearly all fibroids begin in the posterior half of the fundus, where the circulation is the most difficult. Now, the continuous current increases the nutrition of the part by hastening the circulation and interchange of tissues—in other words, acting as the best of alteratives. The exuded lymph goes back where it came from, by virtue of the renewal of the defective vital action. Certainly, in the case of small fibroids, the continuous current never fails to remove them. This reminds me of an observation which I wish to record, that in many cases of fibroids
there is a considerable edema in the outside cellular tissue, into which the finger may be made to sink by firm and continued pressure. Now, when a fibroid begins to diminish under electric treatment, the first thing to go is this edematous swelling; so that what seemed at first a single large tumor becomes resolved into a number of hard masses.

It is by the improvement in the circulation, and consequently of the nutrition of the part, that I would explain the marked relief of ovarian neuralgia by galvanism; for the best definition of neuralgia of which I am aware is that it is the cry of the nerves for better nourishment. But the relief of ovarian pain may be explained in another way. Those who operate for this condition tell us that they frequently find the ovaries and tubes compressed and bound down by a retracting plastic effusion; but, owing to the stimulation of absorption, these exudations are removed and the ovary is left free. The absorption of effusions by the galvanic treatment has been observed by writers not gynecologists, who have advocated this measure for the treatment of ascites.

In nearly every case of fibroid, there is an atonic condition of the walls of the intestines which permits of their being distended with gas. A few applications of the galvanic current tone up the intestines, which expel their gaseous, liquid, and even solid contents, with a corresponding diminution in the abdominal distention. In nearly all my cases, not only of fibroids but also of endometritis, in which electricity has been employed, the good effects of it on the constipation have been very pronounced.

This may perhaps be a good opportunity for repeating an opinion which I never miss a chance of expressing, that constipation is one of the prime factors in the majority of cases of diseases of women. I can hardly find a case in my note book which does not contain the note, "Bowels have always been confired." Surely I have not erred in teaching that the first step in any and every case of diseases of women is to get the bowels regular, so as to remove the obstruction to the venous circulation.

There is one thing about Apostoli's treatment which every one who has given it a trial is agreed upon, and that is that it never fails to arrest hemorrhage in fibroids and metritis. Now, this is all that Mr. Tait claims to do by removal of the appendages;
and although this operation in Mr. Tait's hands is almost devoid of danger, that does not make it easy or safe in the hands of the general practitioner under whose care the patients come. There is very little satisfaction to a woman, who has been confined to her bed for years with exhausting hemorrhages, to be told that she can have them stopped by an operation which has only a small death rate in the hands of Mr. Tait. Even if she could be operated on by him, she would not even then be sure of relief. On the other hand, several hundred cases are on record in which, several years after treatment by Apostoli's method, the arrest of the hemorrhage has proved to be permanent. I have the highest esteem for the wonderful diagnostic skill and manual dexterity of Mr. Tait, but I do not think he has been just to my friend and teacher, Apostoli, when he bases his disbelief in Apostoli's honesty and veracity upon the hearsay evidence of some of his Paris rivals rather than on his own personal investigation. How much better the course pursued by Sir Spencer Wells, who sent a trusty observer to spend a year with Apostoli in studying the value of the treatment, and, on his favorable report, going over himself to verify his observations, and then publicly giving Apostoli his hearty endorsement! Apostoli may be enthusiastic, as all inventors are, and some may have overestimated the value of his treatment; but the tendency of human nature to jog along in the old groove is so great that all his enthusiasm is more than needed in order to drag along the body of the profession in the march of so great an advance. I cannot close without protesting against the assertion that there is any danger connected with Apostoli's treatment. I have seen none during the two years that I have been using it many times a day. I had one narrow escape where nothing but a kind Providence saved me and the credit of the method. A patient who had been treated by me was so enthusiastic about it that she brought a friend, who was a great sufferer, to undergo the same treatment. By great good luck I had been called out of town by telegram a few hours before, and missed her. At eleven o'clock that night something gave way inside of her, and in a few hours she was dead. I have no doubt that if I had even seen her when she came to me I would have had to shoulder for all time one death under Apostoli's treatment. I have not only had no accidents except the one miscarriage which I reported, but every patient has felt
better after the very first application, and I candidly maintain that I do not see how a single death can ever be justly attributed to the method. It is the simplest and safest treatment of which I am aware, and it does not mutilate the patient for life, as do other methods of treatment, but it actually restores to her faculties and functions of which she had been previously deprived. I cannot trespass so much on the space of this Journal as to report even briefly all my cases treated by this method, but I append the barest outline of a dozen cases taken at random from my note book:

Case I.—Mrs. S., 39, widow, artist; sent by Dr. Kennedy. Fibroid tumor since eight years. Pressure symptoms had rendered her helpless and hopeless. After twenty-four applications during two and a half months, circumference of abdomen reduced six inches, and she is able to do all her work and enjoy life. Absolutely free from any subjective symptoms.

Case II.—Miss W., 40, single, cook; sent by Dr. Reddy. Hopeless invalid, fibroid completely filling pelvis. Dysmenorrhea and pressure symptoms on bowels and bladder agonizing. After three months' treatment, able to start a large boarding house, for which she caters and cooks, and enjoys robust health one year after treatment was concluded.

Case III.—Mrs. L., my own patient. Endometritis and perimetritis. Cured by ten applications of positive pole.

Case IV.—Mrs. P., 31, nullipara; sent by Dr. Clowes, of Winnipeg, with rapidly growing fibroids causing great pain, rendering her helpless. Growth arrested by thirty-five intra-uterine applications. One year later is in good health, able to do her own work, and goes tobogganing.

Case V.—Miss C., 41, virgin. Metritis and ovaritis. Cured by nine applications of positive pole.

Case VI.—Miss McP., 41, virgin, cook; sent by Dr. Reddy. Large, rapidly growing fibroid, causing intense pain from pressure symptoms. Pain removed and tumor diminishing after forty-five applications. Has resumed work as cook in a large family.

Case VII.—Mrs. D., 46, married, nullipara; brought by Dr. Jeannotte with very large fibroid completely filling pelvis and extending above umbilicus. Had to be kept under morphia for eight days out of every month for last ten years on account of dysmenorrhea and pressure symptoms. After sixty-five applications, tumor reduced to size of an orange and patient absolutely cured of all symptoms. Six months after cessation of treatment, Dr. Jeannotte reports to me that she menstruates
like a young girl, free from the slightest pain, and enjoys life as she has not done for sixteen years. He also says that the tumor has completely disappeared.

Case VIII.—Mrs. H., carried into my office by Drs. Cleroux and Caisse and her husband, remaining in a faint for half an hour afterwards. Had a large, fibrous polypus completely filling the vagina, which for a variety of good reasons I was not allowed to remove with the snare. Has frequently fainted in bed from hemorrhage. After seven positive galvano-punctures, polypus shrunk to half its size, and patient regained color and strength, and hemorrhage ceased. Saw her four months afterwards in robust health.

Case IX.—Mrs. X., sent to me by kindness of Dr. Proud-foot. Had a six years' history of hemorrhages due to a fibroid, which compelled her to remain in bed ten days every month, during which she would often faint if she raised her head from the pillow. After twenty-eight positive intra-uterine applications, menstruation reduced to four days, no longer obliged to remain in bed during the periods, able to eat and sleep well, and able to go long walks while the flow was going on.

Case X.—Mrs. N., sent to me by Dr. Munro with cancer of the cervix, causing incessant metrorrhagia which had lasted one year in spite of the best treatment. The slightest touch on cervix would cause granulations to bleed profusely, and the tissues were so soft and friable that a tenaculum would not hold in the cervix, which latter is so hypertrophied that it will barely enter between the extended valves of a Cuseo speculum. After six applications, no pain, no hemorrhage; patient eats and sleeps well and able to work. Swelling of lips of cervix gone so that the two lips can be nicely approximated, revealing a very deep laceration which was the starting point of the disease. Decided cancerous cachexia beginning to disappear. Patient declines further treatment, considering herself cured.

Case XI.—Mrs. G., sent to me by Mrs. Dr. Fuhrer with a large, rapidly growing tumor. Suffers terribly from pressure symptoms and want of sleep. After first application, pain left, and has not since returned, three months afterwards. Menstruation is now painless and lasts only three days instead of ten as formerly.

Case XII.—Miss B. Endometritis from cold; severe pain in womb and ovaries, with menorrhagia and dysmenorrhea. Eight applications of the positive pole cured the pain, stopped the leucorrhea, and reduced the period from ten down to four days.

I regret exceedingly that the limits of space prevent me from submitting the reports of these cases in full as they are lying before me; the reader would be interested to hear their his-
tories and also the difficulties that had to be surmounted at the beginning of the treatment in some of them. But as these details are not essentials, they must be left out for the present.

There are a great many others, which I shall tabulate on a future occasion, of dysmenorrhea, ovarian, tubal, and uterine; of pelvic pain due to pelvic exudation; of ovarian neuralgia; of varicocele of the broad ligaments; of prolapsus of the ovary and uterus from passive congestion of these organs—which have been either cured or relieved so much that the patient was satisfied. I do not deny that I have had one failure and a few partial failures, but I maintain that even these are rather owing to want of experience, due to the newness of the method, than to the inability of electricity to remove the pathological conditions. Before the Ninth International Congress I stated that electricity was useful in every disease of the female generative organs with the exception of ovarian tumors and malignant disease. But I believe that at the next Congress I will be able to remove epithelioma from the list of exceptions, having recently had sent to me a hopeless case of cancer of the uterus on whom I determined to try the continuous current, and in whom half a dozen applications of the positive current have made such a difference in the whole aspect of the case that the patient believes that she is cured, in spite of my assurances to the contrary, and I am almost convinced myself that the disease has been arrested. What a reward for all Apostoli’s untiring efforts to introduce his method, if it should be found that it was reserved for his treatment to cure the one hopeless disease of woman—cancer of the uterus!

In conclusion, let me urge those who are working with this method to allow nothing to discourage them, for every day they will learn better and better to overcome the difficulties which must always beset the way of those who start out on a new path. It was Apostoli’s courage alone which was able to rescue this powerful treatment from being buried alive for another decade, and which has placed him at the head of the great and noble army of conservative gynecologists.
I think that no one subject has occupied more of professional attention during the last year or two than extra-uterine pregnancy; and as it has never been brought before this Society for discussion, this appears to me an opportune moment to participate in the consideration of a question which is claiming so much of the time and talent of medical societies at home and abroad.

Dr. Smith, a few weeks ago, presented a post-mortem specimen which would serve better as a text for discussion than the one I shall present, although mine is not lacking in interest, and it may serve to illustrate several points in the course and management of this but imperfectly understood subject.

I regret that I am unable to give a complete and connected history of my case, but, as the patient came under my care at about the end of her troubles, I can only relate what she says of her condition previously, without vouching for its accuracy in its details.

Mrs. S., æt. 22, a handsome, well-developed woman, had been married three and a half years when she consulted me in April of last year. She had been well and regular during her married life up to May, 1887, when her menses ceased. Her period was due on the 15th of May. Soon after this time she experienced morning nausea and general malaise, and frequently during the night had attacks of nausea and sometimes vomiting.

This condition continued till July 10th, when she was taken with excruciating pain in lower abdomen, the attack coming on whilst she was in a reclining position reading. She was confined to bed for three or four days. She had about three of such spells at intervals of three weeks, and was confined to bed two or three days after each, and remained sick and complaining between the attacks. In September she had the last, which was much worse

1 Read before the Washington Obstetrical and Gynecological Society, March 8th, 1889.
than the previous ones; she was extremely prostrated and was confined to bed for a longer period. At this time she first noticed abdominal enlargement.

She had during the summer—she was not exact as to time—a discharge of shiddy or membranous pieces from the vagina.

Two or three physicians had seen her in her various attacks, but it does not appear that any diagnosis was made further than cramp or colic. When better, about three weeks later, she went to California. She had a slight show of menses in October. She consulted a physician in Stockton, who diagnosed pregnancy.

She remained in California during the winter under the care of Dr. G——, who in the meantime concluded that she was not pregnant, but had a uterine fibroid. He examined her several times instrumentally. She had more or less abdominal pain and vesical irritation.

In the early spring she returned to Washington, and consulted me in April, 1888. I examined her carefully and found a tumor about the size of a large orange, or perhaps a little larger, low down in the abdomen and to the left side. Her principal annoyance was with the bladder, micturition being very frequent. Her general condition appeared good, but both she and her husband declared that she had lost considerable flesh. My opinion was that she had ovarian cyst or uterine fibroid, and I advised her to await further developments.

As in May there was a sudden increase in the size of the tumor and considerable abdominal pain, I asked Dr. Busey to see her with me. We examined her carefully, using the sound, but we were unable to determine satisfactorily the nature of her case, although we considered the possibility of ectopic gestation. Symptoms of cystitis increased in violence, and our attention was principally given to alleviation of this condition. Her urine was thick and loaded with sediment, and she remarked one day that she had been passing quite a number of pieces of hard substances, one of which she preserved. It was the small piece I here present. I regret very much that I did not pay more personal attention to her urine during this time, as I might have procured such a number of pieces as to make the specimen more interesting and satisfactory from a diagnostic point of view; but she declares that she passed at least a dozen pieces and much thick, tenacious matter.

By June 1st she was much better; the abdominal tenderness had subsided and the tumor much diminished in size. June 13th, has just passed through menstrual period and feels almost well.

I took the piece she had passed to Dr. Gray, who examined it under the microscope, and he declared without hesitation that it was undoubtedly bone, but was unable to state which it was.

I think there is no doubt that this was a case of extra-uterine pregnancy terminating in discharge of the fetus by ulce-
rative process through the bladder. In works referring to this subject, the bladder is mentioned as one of the routes of escape of the fetus; but I have not looked up the subject, and am therefore unable to state how many such cases are recorded or the symptoms accompanying the process.

It appears from the history of this case that the first attack occurred about the eighth week and the last about the fourth month. What took place during the various attacks, four in number, it seems difficult to conjecture. As rupture in tubal pregnancy frequently occurs about the eighth week, it is possible that this took place at her first painful symptoms; and yet it appears improbable that she would have recovered so readily from so serious a mishap. Or the rupture may have been only partial, and this occurred again and again till the last, in September, when it was complete. I must admit my inability to explain intelligently the course of the case, but I have at least the consolation of knowing that the cure is not by any means unique in this respect, and that I am not alone in being unable to interpret correctly the incidents of this condition.

I saw my patient a few days ago. She is well; the tumor has disappeared, and she menstruates regularly. She is unhappy only because she does not become pregnant, and seems willing to run all risks for the sake of a child.

Now, what are we to do in similar cases? This woman appears to have had, according to her account, all the usual signs of pregnancy, and at the eighth week the symptoms of rupture of the tube. Should she have been operated on then or at any of her subsequent seizures? Of course it is impossible to give a positive affirmative answer in this particular case, because we are ignorant, in a measure, of the severity of the seizures and of the difficulties of making a correct diagnosis which may have been encountered; but I think that there cannot be two opinions concerning the correct practice when these points are clear. An immediate operation under such circumstances is imperative and gives the woman almost her only chance of life. I say almost, because, as this case proves, a woman may recover—and many have recovered—but from every surgical point of view it appears inexcusable to allow one to run such risks when a timely interference might relieve her of all present and future trouble with but little more danger to
life than an oophorectomy, the additional danger being loss of blood and shock.

But the ideal operation for ectopic gestation is that before rupture takes place. I appreciate the fact that this is a difficult question to determine, but I contend that the difficulty is merely one of diagnosis, and I also hold that obstetricians and abdominal surgeons should diminish these difficulties. If the surgeon makes out the tumor and the obstetrician the signs of pregnancy, I can see no reason why there should not be accord in the only reasonable and rational plan of treatment suitable to the case. But there is not, and obstetricians are still discussing the best methods of killing the fetus in situ, such as evacuating the sac with trocar and canula, injections of lethal fluids, etc., and the latest is the use of electricity for that purpose, which is now being employed in numerous cases. I should say that they are all alike unscientific, as they do not protect the woman from future trouble in the majority of cases, and are not devoid of danger in themselves; whereas the operation of extirpation is simple, successful, and final, especially when the case is tubal. Where the pregnancy is interstitial, I admit that there are grounds for doubt about the best method of interference.

To Tait is due the credit, more than to any other, of establishing the advantages of the early operation, by bringing it so prominently before the profession with his large number of successful cases.

If the operation be deferred for any reason, it is seen that the woman runs great risk of sudden rupture and death, as was the case with Dr. Smith's patient. Many such accidents, of course, must happen, for a large percentage of cases reach this fatal termination under circumstances in which no diagnosis can be made; but it is clear that his case should have been operated on immediately with hope of success, although the doctor says her condition was such as to preclude the question of interference at the time he saw her. But certainly one would be justified in operating in extremes, if there were sufficient reason to suspect the true condition.

It is thought that if rupture does not take place before the fourth month, pregnancy frequently goes on to full term, when, spurious labor occurring, the child dies; and if the mother survive, other dangers are encountered. Atrophic changes may
follow in the fetus, such as infiltration of calcareous matter or its transformation into adipocere; or decomposition with suppuration and abscess, with discharge of contents, most frequently into one of the hollow viscera, as bowel or bladder; or it may rupture through the abdominal wall. In all of these terminations there is great danger to life of the mother. It is estimated that three-fourths of all cases die, more than one-half from rupture of the sac.

It may be said then that, in all cases in which the diagnosis can be made out, the operation should be performed without delay, and also the immediate operation should be resorted to in all cases of rupture when this condition can be diagnosed. It appears that up to the fifth month of pregnancy the rule should be to operate, the child being alive, but between the fifth month and period of false labor operation is not advisable.

It is proper also to operate after false labor when the child is dead and the amnion absorbed, and in all cases of suppuration; but when the fetal remains are quiescent, operation is not urgent. In all cases and conditions dangerous to the mother, interference is imperative.

The early operation, as has been said, is simple, easy, and successful, the sac and contents being removed together as in an ordinary ovarian cyst.

When the sac has ruptured, of course the danger is greater; but when performed without delay, the operation is usually attended with success. The ovum has to be extracted, blood cleaned from the peritoneal cavity, and the sac removed.

After the end of the fourth month, the dangers increase and difficulties are encountered when the fetus is viable. Here it becomes unsafe to attempt the removal of the sac with its contents, and another line of practice must be adopted. The safest plan is to incise the sac, when there is one, remove the fetus, cleanse the cavity and stitch the edges of the sac to the abdominal opening, and leave the placenta to separate naturally. In some cases, the removal of the placenta may be proper, but never when there is no proper sac, and the greatest care should be exercised to avoid wounding it. The after-treatment locally consists in free drainage and washing out the sac.

The operation for extirpation after term is admitted by all to be attended with great dangers and difficulties. The adhesions are often so great that only a part of the sac can be extirpated,
the remainder being attached to the abdominal wall and thoroughly drained. I have only alluded to the difficulties likely to be encountered in the late operations, without any attempt to describe them, as it would take much time, and, besides, has no special bearing upon the case I report.

The condition of ectopic gestation in Mrs. S.'s case appears never to have been made out, and I doubt whether the most experienced could at any time have been so sure of a diagnosis as to have felt justified in operating. After she came under my observation, upon one occasion only were symptoms of such a character as to indicate anything more than an ovarian or uterine tumor. This was when Dr. Busey saw her with me the second time. There was apparent sudden enlargement of tumor, with abdominal pain and some distention, but her general condition was so favorable that no surgical interference was thought of by me at the time. In a few days these symptoms began to subside as the vesical irritation and discharge increased.

It is by no means clear to me what took place at this time to cause these symptoms. The only explanation I can suggest is that, as the ulcerative process made an opening into the bladder, urine passed into the sac as the fetal contents passed downwards; as soon as the sac was emptied, it began to contract and close, and was thus relieved of the irritation of the urine.

I am compelled to admit that this is not a forcibly presented case of extra-uterine pregnancy, but, after much thought expended upon it at the time and since, I see no other interpretation of her symptoms. It is fortunate I succeeded in getting the small bone, for without that I should have had no case. At least there would be too much doubt surrounding it to warrant its being presented here. As it is, the inference, if not absolute certainty, is in favor of our diagnosis.
A HYDROCEPHALIC MONSTER WITH CEREBELLUM ENORMOUSLY DEVELOPED OUTSIDE THE CRANIAL CAVITY

BY

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(With three woodcuts.)

Patient, German, age 29. Had two healthy boys, one three years, one fifteen months previous; both born easily; mother cared for by a midwife.

Labor came on early in the day; pains irregular and light until noon. I was called at 3 p.m. The abdomen was large and round, pains frequent, os thoroughly dilated, a soft mass protruding; to touch, it resembled placenta, maternal side. Ether was being given when a single prolonged pain forced the presenting body down into the vagina until it protruded at the vulva. The next pain ruptured the mass; watery blood spouted several feet; the sac collapsed, and at its attachment could be felt a small head. Slight traction brought the head well down; another pain forced the child into the world.

Child, female, weighing eight pounds, body well developed, limbs normal. Face small, eyes large and protruding; forehead poorly developed; from the superciliary ridges the head sloped flatly backward and upward. No opening of anterior fontanelle.

From the occipital region was a large mass formed externally by a continuation of the scalp above and the integument of the neck below. This was the presenting mass giving the feeling of
placenta covered by membrane. In the centre of this mass was a thin membrane that ruptured at time of delivery, allowing blood, water, and shreds of fleshy material to escape. Hair grew on its surface continuous from the scalp above and the neck below.

Shortly after birth, a finger was passed through the ruptured membrane, through the posterior fontanelle, into the small cerebral cavity, apparently empty except for a little fluid. The finger gave almost no inconvenience except when pushed into the foramen magnum; then the child stopped crying, breathed spasmodically, gave convulsive twitches of the limbs, and became blue. As soon as the finger was withdrawn, breathing became regular, crying continued, and the body regained its natural pink hue.

As a possible cause of the monstrosity may be given the following: Twice during the early months of pregnancy the mother was frightened by seeing her child fall; through the later months she grieved constantly over the wayward course of an unmarried sister. The pregnancy from an early day differed from her other two. There was more sickness, more "bad feeling," but less vomiting; this time she menstruated regularly at least four times, not knowing pregnancy existed until she felt motion in utero.

Autopsy.—Head opened in the usual way; no anterior fontanelle and no frontal suture. The coronary and sagittal sutures were quite firmly united by cartilage. The cranial bones were flat, meeting each other, forming angles at the suture junctions. The posterior fontanelle was large and very nearly circular (Fig.

Fig. 1.—Showing circular posterior fontanelle, absent anterior fontanelle, flat cranial bones, angles at suture unions.
Fig. 2.—Showing comparative size of mass, sacs in its interior, pedicle coming out of fontanelle posterior to hemispheres, etc.
1). The cerebral hemispheres were small, the right slightly the largest; together they would weigh three ounces.

Just posterior to the cerebrum was a large pedicle that passed through the posterior fontanelle into the sac (Fig. 2) at the back of the head, where it widened into two large, hollow lobes; inside each was a smooth-lined cavity containing bloody serum. The substance of the lobes around the cavities was like that of healthy brain, well supplied with vessels and inclosed in membrane continuous with the dura mater. The medulla was small; around it and in the foramen magnum there was so much liquid and clotted blood it was difficult to make it out. The optic nerves, though small, could be easily seen.

The large mass back of the head contained the cerebellum, developed to many times its normal size; the space inside the skull usually occupied by it was filled with bloody serum.

The abdominal and thoracic viscera were abnormal in that the lungs were partly inflated, the heart flabby and full of clots, the foramen ovale patent.

THREE CASES OF DIPHTHERIA IN WHICH PAPOID WAS USED.¹

BY
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Having witnessed the interest excited in this Society about a year since by a paper which one of our members, Dr. J. R. Bromwell, read upon the subject of papoid in diphtheria, and believing that any facts in regard to the treatment of this common affection are of considerable practical value, I have been led to adopt the same subject for my paper this evening. I have been more ready to do this because I realize that as a society we can obtain the maximum amount of information upon any one subject only by its being discussed from year to year by the individual members. By a systematic recital of experience we can, in this way, best learn those agents and measures which are of real value and those whose happiest effect is by their exclusion. The use of papoid as a remedial agent in diphtheria is so recent, and the results obtained from its use by

¹ Read before the Washington Obstetrical and Gynecological Society, March 15th, 1889.
Dr. Bromwell are so different from those obtained by myself, that I trust this evening's discussion may enable us to say whether we can or cannot use it with advantage in the treatment of diphtheria. Any description of the drug itself would, I believe, be superfluous, and I shall simply beg leave to give the practical results which I obtained from its use in three cases where, beyond all doubt, true membrane was present. I shall not refer to several cases where I suspected diphtheritic membrane to be present, and in which I used papoid, because in these cases a positive diagnosis was, owing to the absence of other important symptoms, not possible. That many cases of follicular tonsillitis are diagnosed and treated as diphtheria I believe we all realize; and we at the same time know that cases of diphtheria where slight local lesions exist are called, and treated as if they were, follicular tonsillitis.

I desire particularly to call attention to the fact that in one of these cases—the first—a small patch of membrane remained in position for at least two weeks, and that this occurred despite the fact that the best agents for dissolving membrane which we know of were vigorously applied. Whether this spot of membrane was or was not being constantly dissolved and reformed, and whether it afterward served as a source of infection for another and distant part, I trust some member of this Society will be able to say, after the history of the case has been given.

Case I.—J. K., white, aged 9 years; type, blonde; appearance strong; previous history and family history good. This child was first seen on the afternoon of November 12th last. She had been complaining for a day or two of headache (frontal), loss of appetite, weakness, and diarrhea. She had for the first time complained that morning of her throat being sore. On examination, the cervical and submaxillary glands were found to be greatly swollen and very tender; temperature, 102.8°; pulse, 140. Both tonsils and the wall of the pharynx were covered with membrane of a grayish color. There was a decided fetor to the breath, and a peculiar odor which I have observed in other cases, some of them not diphtheria, which resembles the odor of chloroform, and the cause of which I have never been able to ascertain.

Directions were given for the child to be put to bed at once, to be given liquid diet of a nourishing nature and at frequent intervals. In addition cold compresses were directed to be applied to the neck, cracked ice to be taken ad libitum, and a tablespoonful of whiskey to be administered every two hours. Besides the above, five grains of calomel were given.
The patient was next seen at 9 o’clock the same night. At this hour, the thermometer showed a temperature of 101.5° Fahr., and the pulse had fallen to 130. The calomel had acted several times. The liquid diet, stimulants, and cold compresses were ordered to be continued as before, and I applied a paste, composed of a five-grain powder of papoid rubbed up in a little glycerin, to the infected area. The child’s mother was shown how to use these powders, and was directed to apply one every half hour until my next visit. The next day (November 13th), the patient was seen at 11 o’clock in the morning, when she was found to have a temperature of 100.2° Fahr., and a pulse of 126. There was little or no perceptible change in the appearance of the deposit upon the throat. At 7 o’clock the same evening, the temperature was 100.4° Fahr., the pulse 116. The deposit upon the throat still remained as before. Papoid had been applied every half hour during all this time. I directed a continuation of the same treatment, and in addition prescribed ten drops of the tincture of chloride of iron to be given every two hours. On the 14th of November, at 11 o’clock in the morning, the temperature had fallen to 98.8° Fahr., and the pulse to 96. Appearance of throat unchanged. Treatment continued. No change in appearance of parts could be detected the same evening, but the same treatment was persevered in. November 15th, 11 A.M., temperature 99° Fahr., pulse 82. That evening the temperature was 99.5° Fahr.; the pulse, 108. On the following day, the child was so ill that I was compelled to see her three times. The temperature at 11.30 A.M. was 101.6° Fahr., and the pulse 126. At 4.30 P.M., temperature was 102.4° Fahr., pulse 140. At 7.30 P.M., temperature 101.2° Fahr., pulse 130. The previous treatment was persevered with, and, in addition, a seidlitz powder was given. November 17th, at 11.30 A.M., the temperature was 99° Fahr., and the pulse was 96. At 8 P.M., the thermometer registered 99.4° Fahr., and the pulse had reached 110. The tonsils were now almost free from membrane, and portions of the pharynx were also clear. No change in treatment was made, but the papoid was procured from another pharmacy, as I feared the possibility of having secured an inferior specimen of the drug. The next day, November 18th, the temperature remained normal throughout the day, and the pulse did not exceed 90 per minute. The same evening I began to use a solution of trypsin, and, alternating with papoid every half hour, I continued to apply it for the following twenty-four hours. The throat soon became clear of membrane, except at one point below the right tonsil. At this spot, a patch of membrane about the size of my thumb nail remained, and for the next fortnight, despite the frequent application of both papoid and trypsin, it maintained its position without change. During this time, the temperature remained normal, and the pulse, while occasionally irregular or intermittent, was seldom higher than 96 per minute. Dr. C. W. Richardson and Dr. J. R. Bromwell had
Papoid in Diphtheria.

821

in the meantime seen the case, and both agreed that the patch which remained upon the throat was diphtheritic membrane. At their suggestion, we made a faithful trial of steam by inhalation, of sprays, and in addition gave iron, hydrochloric acid, and chloride of potassium internally. All of this was done without any appreciable effect being witnessed. So affairs continued until the evening of November 28th, sixteen days after the case had first been seen. That evening I was summoned by telephone to see the child at once. On reaching the house, I found that, an hour or two previously, symptoms of croup had appeared, and to one of these attacks the patient had almost succumbed. I found her with constant dyspnea, a bluish discoloration about the lips, face, and hands, and with symptoms of great restlessness and anxiety. I remained at the house all night, and, despite the treatment given, thought several times that I would be compelled to perform tracheotomy. Hot poultries were kept applied to the front of the neck, steam inhalations given, and papoid in solution was sprayed into the larynx every fifteen minutes. For the next forty-eight hours, the child’s condition remained critical, but after that the symptoms of laryngeal obstruction disappeared. The spot of membrane under the right tonsil still continued as before, and it had only entirely disappeared by the 5th of the following month (December), and only after it had been subjected to daily applications of the undiluted tincture of the chloride of iron. The child’s general condition remained excellent throughout the attack. As a sequel there occurred some paralysis of the muscles of the right side, as well as those of the left palate, but this paralysis was not of long duration and was not progressive in character. My experience in this case induces me to ask the Society three questions, as follows: (1) How long can a spot of diphtheritic membrane remain upon the throat? (2) Was this spot the source of infection for the larynx which afterward occurred, or was that due to an independent and systemic source? (3) Did papoid have any effect in causing the disappearance of the membrane from its other situations, when it failed, after the most vigorous trial, to have the slightest effect upon the obstinate patch of membrane before referred to?

Case II.—A gentleman, aged about 29 years; type, blonde; previous history good; had been more or less unwell for a week or two prior to his present attack. Was first seen by myself on the morning of January 11th last. He was then sitting up, but complained of violent headache and sore throat. Had suffered from a severe chill an hour or two before. His temperature was 104°Fahr., pulse 142; face flushed; cervical and submaxillary glands all enlarged and very sensitive to pressure. An examination of his throat showed the presence of membrane over both tonsils and walls of pharynx. This patient was put to bed at once, directed to have liquid diet every two hours, and two tablespoonfuls of whiskey were ordered to be given with the same frequency. Five grains of calomel were prescribed, as in case
No. 1. At 9 o'clock in the evening, the temperature was 103° Fahr., pulse 120 and weak. I now began the use of papoid, and had it applied to the membrane every fifteen minutes. Having from experience learned that glycerin was not a good vehicle for papoid, as most of the latter will remain in the brush when rubbed up with it, I used water as a solvent. By using the latter, every particle of the papoid can be applied to the membrane. It has the additional advantage of not making it difficult to clean the brush after using.

On January 12th, at 11 A.M., I found the patient with a temperature of 102.4° Fahr.; pulse 120, but stronger than it was on the previous evening. There was no marked change in the appearance of the throat, but the intensely disagreeable odor to the breath which had at first existed had disappeared, and the patient expressed himself as being much more free from pain about the throat. At this time, as when at first seen, intense redness and congestion were observed at every point in the pharynx where the view was not obstructed by membrane.

No change in treatment was made. The case was seen at 8 o'clock the same evening, when the thermometer showed a slight rise of temperature; pulse 122. The patient had had six or eight free movements of the bowels during the day. On the following morning, January 13th, there were indications that the membrane was disappearing, but the general condition of the patient was not so good; his temperature in the morning being 103° Fahr., the pulse 130 and very weak and irregular. I increased the stimulant (whiskey) to three tablespoonfuls every two hours, and continued the papoid as before. At 8 P.M., the temperature was 100° Fahr., the pulse 100, regular and stronger. Same treatment was continued. January 14th, at 12 M., for the first time since seen, there was an absence of fever; pulse 96 and of good volume. Portions of the membrane had disappeared, leaving scattered patches over the walls of the pharynx. The patient at this time showed marked evidences of anemia, and I directed that he be given a liberal amount of beef juice each day. At 9 P.M., the temperature was 99° Fahr., pulse 96. I now prescribed a mixture containing chlorate of potassium, hydrochloric acid, and tincture of chloride of iron. The throat still showed signs of the intense congestion before referred to, but the membrane had perceptibly lessened in amount.

By the morning of January 15th, all membrane had disappeared except a small round patch on the left side of the pharynx and a larger and more quadrilateral-shaped remnant on the right side. On the next evening (January 16th), all membrane had disappeared from the throat except the patch above referred to, which still retained its place on the right side of the pharynx and extended down almost as far as the eye could follow. Frequent applications of papoid to this spot both by brush and spray seemed to have no effect, so on the following day (January 17th) I began the local use of the undiluted tincture of the chloride of iron. At
the same time I began to keep the air of the room moistened by boiling water, and in this water I always kept some oil of turpen- tine. The remaining portion of membrane held its position in spite of treatment, and it was not until the 22d of the month—
eleven days after I had seen the first case—that it had entirely dis- appeared. At this time the patient's general condition was excel- lent, and he made a rapid and uneventful recovery. In connec- tion with this case, I wish to say that the patient's wife was expecting to be confined at any time, and that I was on that account obliged to adopt the strictest antiseptic precautions. These consisted in the removal of every object from the sick- room which was not considered necessary, in keeping the vapor of turpentine constantly present, and in having cloths sprinkled with carbolic acid hung about the room. Early in the morning of January 18th, the wife of this patient was delivered of a son, and I am pleased to state that neither mother nor child suffered from the proximity of a contagious disease.

In this case I can again ask, Did papoid aid in the early dis- apareance of the greater portion of the membranous deposit, and, if it did, why should the remaining portion prove non-susceptible to its action? In both the first and second cases, I believe the application of the tincture of the chloride of iron, and not the papoid, was the cause of the disappearance of the remaining membrane.

Case III.—Florence O., aged 11 years; mulatto; appearance frail. Was first seen at my dispensary service at the Children's Hospital on January 25th, 1889. Complained only of pain in abdomen, and headache. Realizing the value of examining the throat in children, as well as in infants, even when soreness of that part is not complained of, we made no exception in this case, and the result of the examination amply proved the value of the proceeding. The cervical and submaxillary glands were all found to be enlarged. The tongue was heavily furred white, and had upon it four large ulcers, two of these being on the left side, one on the right, and the remaining one in front. Both tonsils were covered with grayish membrane, and a band of the same extended across the posterior wall of the pharynx. The tempera- ture was not taken. Pulse 130, weak and irregular. The girl presented marked symptoms of anemia. As in the previous cases, I began the treatment by prescribing five grains of calomel. Absolute rest in bed was enjoined, and in addition she was directed to have a wineglassful of milk with three teaspoon- fuls of whiskey every two hours. Besides this she was allowed to have as much solid and liquid food of a nourishing nature as she cared to take.

Case was next seen at 1 o'clock in the afternoon of the following day. No appreciable change in symptoms could be detected other than a diminution of heart rate to 108 per minute. No change of treatment was made at this time except to increase the amount of stimulant to a tablespoonful of whiskey every
two hours. At 5 in the afternoon of the same day, I applied five grains of papoid in solution to the membrane, and directed the mother to make the same application every fifteen minutes until I next called. A gargle containing one drachm of chlorate of potassium to a half pint of water was directed to be used every half hour. This latter was ordered more with a view of keeping the throat clean than for any other reason. All unnecessary articles of furniture and hangings were removed from the room. The air of the apartment was kept saturated with the vapor of turpentine, a half ounce of turpentine being added to a quart of boiling water for this purpose. Carbolized cloths were also kept suspended about the room.

January 27th, 12 m.: Temperature 100° Fahr., pulse 107. Little or no change apparent in appearance of throat. The condition of the room not being cleanly, I had all the woodwork, floors, etc., washed with a solution of turpentine. Treatment continued. Four p.m., condition of patient about the same as when last seen. The former treatment was continued.

January 28th, 1 p.m.: Temperature 99° Fahr., pulse 96. The tonsils were almost clear of membrane, but the band of membrane extending from one tonsil to the other across the posterior wall of the pharynx was unchanged. The tongue was cleaner. Two movements of the bowels had occurred since last seen, and considerable pain in the abdomen had been complained of during the night. At 9.30 p.m., the pulse was 96; temperature was not taken. In addition to a wineglassful of milk with a tablespoonful of whiskey which had been given every two hours, the patient had taken eggs, boiled rice, oysters, and other nourishment during the day. The tongue was again heavily furred, and the child's mother was directed to cleanse it several times a day with a wet rag and lemon juice. The ulcers on this part remain unchanged. No change in appearance of the throat is yet to be seen. A tablespoonful of castor oil was given, the papoid applications and other treatment were ordered to be continued, and the popular combination containing chlorate of potassium, tincture of chloride of iron, and hydrochloric acid was given.

From this time (January 28), the condition of the parts rapidly improved, and four days later there was no trace of membrane upon the throat.

In this case, as in the two preceding ones, I have some doubt whether the papoid caused a removal of the membrane. I regret to add that I have not seen this case since a day or two after the throat became clear of membrane, so I am unable to state whether any paralysis ensued.

My experience in these three cases has strengthened my belief in the truth of some deductions made in previous ones. One of these is that we may have marked local lesions without any prominent local symptoms being complained of; another,
that so long as there is the slightest quantity of membrane remaining upon the throat, we have reason to fear that fresh deposits may occur. That the clinical thermometer is not of any great practical value in diphtheria I believe to be true. It is of far more importance to have a close supervision of the pulse. Of the great value of alcoholic stimulants in these cases there can be no doubt, and the earlier we begin their use the better will our results be. If we were limited to the use of any one agent in the treatment of this disease, alcohol would, I believe, be the most useful one we could select. A moderate dose of that much-abused drug—but none the less valuable for that—calomel, given at the commencement of the disease, will go far toward keeping the digestion in good condition. The demand for a free administration of nourishing food in these cases is imperative, and, next to milk, a liberal supply of beef juice will best fill this want.

As to how the disease was contracted in cases No. 2 and 3, I am unable to state. In neither of these could I learn of any other cases of the disease in the neighborhood. Case No. 1 occurred in a locality where the street had been ploughed up and allowed to remain without being paved for several months, and during that time a liberal amount of refuse matter had been deposited upon it. There were several other cases of diphtheria in this neighborhood, and two of them, in the same row where my case lived, died from laryngeal obstruction.

Before closing my account of these cases, I wish to add that whether papoid be a solvent of membrane or not, I believe it to have two good effects when applied to the throat in a case of diphtheria: (1) it relieves pain, seeming to act more or less as a local anesthetic; (2) it prevents or destroys the offensive odor so common in these cases.

I trust that this recital of my limited experience with papoid in diphtheria may lead to an expression of experience from those whose opportunities for using it have been greater than my own.

March 15th, 1889.
Dear Doctor:—On September 19th last, I read before the American Gynecological Society a paper on "Pressure Forceps versus the Suture in Vaginal Hysterectomy." This article was published in the Transactions of the Society for 1888, Vol. XIII.

On the question of priority in the use of pressure forceps, the article contained, with his permission, a letter from M. Péan. A few days ago, I received from Dr. Richelot a reply to the letter of Péan with a request that it be published.

The following are translations of the letters of Drs. Péan and Richelot, who may speak for themselves:

Very Dear and Honored Confrère:—You will find in the five volumes of the "Leçons de Clinique Chirurgicale de l'Hôpital St. Louis" all the information you desire on the subject of temporary and permanent hemostasis by pressure forceps in all surgical operations.

At the end of vol. i. you will find the lessons which I have given for many years, and which have been reproduced by my internes, M. Deny and M. Exchaquet. In vol. ii. you will find many clinical lessons which I published to establish the history and determine the applications. In vol. iv. the second and third lessons are devoted to vaginal extirpation of the uterus. You will see that, as in all my operations, I practise what I recommended at that time regarding hemostasis. These lessons were read at the Académie in July, 1883. In the same volume you will find the description of my method applied to vaginal hysterectomy (in lessons 11, 12, and 13). In vol. v. you will find the reply which I made at the Congrès Français de Chirurgie to Dr. Richelot when he sought to appropriate to himself my method, which my internes had communicated to him (on page 213, lesson 14), as well as the letters of Dr. Buffet d'Elbœuf. The applause of the entire assembly prevented Richelot from continuing to go on in this way so lamentable for his reputation. In 1887, my interne, M. Secheyron, received the prize of the Académie de Médecine of Paris for his essay on "Vaginal Hyster-
Correspondence. 827

ectomy.” In this work all my rights of priority are established. M. Richelot, who presented an essay on the same subject, received no recompense at all.

This year, 1888, you will find in the Gazette des Hôpitaux a part of the lessons on morcellement and hemostasis by pressure forceps which I had communicated in 1873 to the Académie de Médecine of Paris. I there used illustrations in order that those might better understand my method who, being foreigners, would better understand a description illustrated by pictures than the French alone.

My interne, M. Sechevron, is now publishing besides an important work upon vaginal hysterectomy, in which you will soon find all the information which would interest you upon this subject.

Believe in my entire devotion.

(Signed)    Péan.

Paris, August 1st, 1888.

Paris, April 14th, 1889.

Sir and Honored Confrère:—I have before me your interesting article on “Vaginal Hysterectomy,” which closes with a letter in which M. Péan accuses me of wrongfully claiming priority in the method of hemostasis by pressure forceps.

This letter cleverly mixes up the subject of forci-pressure in general with its special application to vaginal hysterectomy. It does not give dates, and it refers to articles written by obliging students. It contains also a series of inaccuracies to which I do not consider it necessary to reply in detail. But, as I value the good opinion of my confrères, allow me briefly to recapitulate the facts. My friend Terrier, surgeon to the Hôpital Bichat, who saw me operate during his service in 1885, will bear witness to my American colleagues as to the accuracy of my statements.

After my communication to the Société de Chirurgie, November 11th, 1885, in which I advocated the entire abandonment of the ligature in vaginal hysterectomy, and the securing of permanent hemostasis in the broad ligaments by the use of pressure forceps, which should be allowed to remain for a time, I received the following letter from M. Péan:

March 1st, 1886.

My Dear Richelot:—I do not think that you intentionally forgot to mention in L'Union Médicale the first operations of vaginal hysterectomy which I performed at Paris, although they were reported to the Académie de Médecine in 1883 and mentioned in several journals. You have, doubtless, not consulted the library of the Académie. It also gives me real pleasure to send you the clinical report in which they were mentioned. It is an extract from volume iv. of the “Clinique de l'Hôpital St. Louis,” which will appear in a few days.

My first operation was performed at Paris before our confrère Demons had done his first vaginal hysterectomy at Bordeaux.
My two succeeding operations were also done in 1882. You see that they interested the statisticians of Paris. Since that time I have done three other similar operations, of which two were successful. This makes six operations that I have had in my private practice, four being successful and two unsuccessful. I have at your disposal all the notes of the cases, and the anatomical specimens to verify them, if they will be of use to you in your researches.

Your devoted colleague,

(Signed) Péan.

You will see that in this letter not a word is said about force-pressure. In the three communications to the Académie, of the existence of which I was not aware, the author does not utilize the forceps for permanent hemostasis; he expressly recommends—I have his article now before me—that all the forceps which have been used in the course of the operation be removed and replaced by ligatures, and that the wound be closed by bringing together the margins of the peritoneum.

After this appeared the thesis of Gomet ("De l'Hystérectomie Vaginale en France," Juillet, 1886), in which were reported six new cases of M. Péan, up to that time unpublished. In one of these, bearing the date of June 19th, 1885, the author thus expresses himself: "It would have been impossible for me to remove these forceps, because they were applied so high up. I decided, therefore, to leave them in place, and did not apply a suture to the wound." In the same paper is described the procedure of M. Péan, which consists in turning the uterus, in tying each broad ligament in two portions, and in closing the wound by from ten to twenty sutures.

Prior to this, Baeckel, on October 26th, 1882, had left in situ two large forceps upon vessels which could not be reached by the ligature. Jennings, of London, did the same on October 30th, 1885, after a ligature had slipped.

These facts being known to me, I made a formal declaration to the Congrès Français de Chirurgie on October 19th, 1886, that, in the use of pressure forceps for permanent hemostasis in vaginal hysterectomy, I had not made "any invention," and that my rights of priority reduced themselves to the following formula: "Systematic employment of pressure forceps for permanent hemostasis and the abandonment of all ligatures, not as a matter of expediency or in difficult cases, but invariably and as a matter of preference." This phrase is certainly not ambiguous, and even at the present time it seems to me a sufficient answer to the accusations which have been unsparingly heaped upon me.

Since that time, I have published my reports and have not entered into any controversy at all. I have frequently given my opinion as to the shape of forceps, but have never given any one authority to call any instrument whatsoever by my name.

Notwithstanding this reserve, M. Péan has not ceased to complain of me in terms which betray the most violent indignation.
He has almost gone so far as to say that I claimed to be the inventor of forci-pressure.

I do not desire to take up in detail what M. Péan has caused to be written during the last three years upon a subject which touches him to the heart, but the zeal with which he has pursued me even to America does surprise me. Meanwhile I remain quietly here in Paris, and—as I at least think—without bearing him malice.

Accept, very honored confrère, the expression of my best wishes.

(Signed) Dr. G. Richelot.

Professeur agrégé à la Faculté de Médecine de Paris, Chirurgen de l'Hôpital Tenon.

The American Journal of Obstetrics for October, 1888, contained a very complete résumé of my article. The operation is attracting so much attention that the question of priority is of considerable interest. I therefore have taken pleasure in sending you the statements on that question of the two principal claimants.

Yours truly,

E. C. Dudley.

70 Monroe St., Chicago, Ill., June 14th, 1889.

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TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, February 19th, 1889.

The President, Dr. H. T. Hanks, in the Chair.

MULTilocULAR OVARIAN CYST.

Dr. J. G. Perry.—I have a specimen to present, and in connection with its history one or two points of interest. The case was that of a lady, 54 years of age, who passed the menopause five or six years ago. There was no discharge from the uterus for about six months, and then a flow began which persisted until the operation, three weeks ago. When I first examined the patient, the uterus was found anteverted, and over it was a tumor apparently as large as a good-sized kidney. I could move the tumor all about the abdominal cavity, and carry it up even to the liver, and in this neighborhood it took a position which seemed very comfortable to itself and led me to think that it was a floating kidney. It remained in this position three days, but on the fourth day it had resumed the position in which I had first found
it. Being unable to feel the ovaries, I placed the tumor in the position which the left one should occupy, and it remained there three days.

I could not account for its great freedom of motion without accepting the idea of its being a fibroid with a long pedicle, or a fatty tumor of the omentum; but the hemorrhage it caused indicated the former. I placed it directly under the line of proposed abdominal incision, in order that it might be removed without delay; but in dividing the peritoneum, it disappeared so completely from sight and touch that I had to introduce the left hand within the vagina to find it. It was found behind the uterus, and so firmly held as to require a great deal of effort before it could be brought up to the line of incision. There was also much difficulty in keeping the intestines within the abdominal cavity. The tumor seemed to be ovarian and one involving the whole structure of the gland; and while it appeared to be an excellent example of unilocular cyst, the discovery of a smaller cyst in its very thin wall showed it to be multilocular. The feature of interest in the case was the great mobility of the tumor prior to the operation, and the extreme difficulty with which it was dragged out of the abdomen and ligated during the operation. I am unable to state what brought about the change in mobility. The patient has made an excellent recovery, and had no hemorrhage since the operation.

Dr. W. Gill Wylie.—These cysts are very apt to be movable until in their movements a little inflammatory trouble is developed, when they become adherent. Last Monday I was going to do Alexander's operation at Bellevue Hospital for what appeared to be complete prolapsus of the uterus, in a case in which I had already sewed up the cervix and perineum. The uterus was down at the vulva, and the patient had a good deal of backache. Not having examined her thoroughly for some time before, on giving her ether for the operation I found a cyst, not quite as large as the one presented by Dr. Perry, which, on lifting the uterus, collapsed.

Dr. Perry remarked that in his case this explanation was not applicable, for the tumor was freely movable just before the operation. His own explanation of the case was that reflex spasm of the tissues caused the tumor to be drawn down and fixed, for the abdominal muscles were very rigid when he cut through them, and the intestines escaped with great force, so that for ten or fifteen minutes he was unable to go on with the operation.

Dr. Buckmaster.—That rupture of a cyst within the abdomen does not always cause inflammatory trouble is shown by two cases which have been under my observation. In one case I made an abdominal section a few days after rupture of a small cyst; and the other was a case of a friend who also ruptured a small cyst by manipulation. Neither case was followed by any unfavorable symptoms.
VAGINAL HYSTERECTOMY FOR COMPLETE PROCIDENTIA.

Dr. G. M. Tuttle.—I have two specimens obtained since the last meeting of the Society. They possess no features of unusual interest, except that such specimens are always of great interest to the man who operates. The first—one of cancer—was a very favorable case for vaginal hysterectomy, although I had anticipated a great deal of trouble on account of the narrowsness of the vagina and the size of the uterus. The operation, however, proved easy. The only difficulty was found in the broad ligament, due to some prior inflammatory trouble. There I used the clamp. The specimen shows that the disease had advanced up to the os internum. The woman is now in good condition.

In the second case which I operated upon for complete procidentia, I anticipated rather an easy operation, but found it rather a difficult one. The uterus was large; the dissection from the bladder was very difficult indeed, on account of the edema and vascularity of the parts. Polk's clamps were used. Every means for keeping the uterus up had previously failed.

OVARIAN CYST.

I have here some other specimens of minor interest. The first was from a case in which I made an error of diagnosis. I thought the woman was suffering from pyo-salpinx. She gave a clear history of gonorrheal infection. She had epileptoid attacks of a most pronounced type, coming on every month. She bled very freely from the uterus. I felt what I supposed was a diseased tube, but it proved to be a cyst of the ovary.

LAPARATOMY FOR DISEASE OF THE APPENDAGES.

Here are also some other specimens of uterine appendages, to which are attached labels. The one in my hand was removed by operation last week. It was a case of double pyo-salpinx adherent to the vermiform appendix, which was removed with the tumor. Together the two tumors formed the largest which I have yet removed. In the case of this other specimen there was a cyst, which was aspirated and pus withdrawn whose odor was so strong as to fill the operating room and cause me to fear infection. Notwithstanding extensive adhesions, I managed to get the tumor out intact, and the patient made a good recovery.

Here is another specimen of pyo-salpinx, removed yesterday, in a case in which I had previously curetted the uterus for hemorrhage. The patient was a colored woman, very stout, and little could be felt before the operation. There has been no rise of temperature.

ALLEN'S SURGICAL PUMP.

I would like to call attention to an instrument which I have used with much success—that is, Allen's surgical pump. The description accompanies the instrument.
Recently a woman came under my care who was bleeding violently after miscarriage. The dilating bag connected with the pump was introduced into the cervix, and dilatation easily effected until the finger could be introduced up to the fundus and the placenta be removed. The canal was then packed with iodoform gauze and drained.

**Submucous Fibroid of the Uterus.**

In this bottle is a fibroid tumor of the uterus removed through the vagina, the cervix having been severed to allow of its escape. The tumor is ovoid, was nearly as large as a child's head, and was separated by torsion. I packed the large cavity of the uterus with iodoform gauze and put in a drainage tube. There was no reaction, no fever. Here is another somewhat similar case.

Dr. A. P. Dudley asked the speaker whether, in the case in which the sac burst and pus escaped into the abdomen, he used the drainage tube.

Dr. Tuttle replied that he did, and left it in over a day.

Dr. H. C. Coe.—The case of vaginal hysterectomy suggests a subject which is yet under dispute. It appears to me that an examination of the specimen presented, and of several other uteri which I have seen extirpated per vaginam, suggests the question whether high amputation would not have removed the cancerous disease entirely, and thus have saved the patient exposure to the shock of a more serious operation. In one patient, I started to perform vaginal hysterectomy eighteen months ago, but afterward decided to do high amputation. Although she had a recurrence, I must say that her condition compares very favorably with that of the average case of vaginal hysterectomy after the same lapse of time.

Dr. Tuttle.—In all the cases of cancer of the uterus in which I have performed hysterectomy, few in number, a section was first taken out and examined to render the diagnosis positive. In this particular case, which was a typical one of rapidly progressing malignant disease, both Dr. Prudden and Dr. Roosevelt counselled removal of the entire organ. The temperature has not risen above 99° F. The cases which I have seen have impressed me with the fact that the operation, aside from its technique, is not a very serious one. I make these remarks with some deference before members who have had larger experience, but in the cases at Roosevelt Hospital, eight or nine in number, there has not been a death nor a rise of temperature above 99.5° F.

Within a week I performed high amputation in a case in which I found that I would be unable, in doing hysterectomy, to dissect the uterus out because of infiltration. Having begun the dissection in Douglas' pouch, I closed that wound and cut away as much of the uterus as I could above the os internum. The wound is now clean, and I shall watch the case with considerable interest; but my own feeling is that where the malignant disease has a short history, but is of rapid progress and reaches the submucosal tissue, attended by pronounced cachexia, as in the cases which I have operated upon, removal of the entire organ is justifiable.

Dr. W. Gill Wylie.—If a woman has what has been proven
to be malignant disease of the uterus, removal of the entire organ is without question, in my mind, the operation which should be performed. I agree fully with Dr. Tuttle that vaginal hysterectomy, if done properly and in cases in which the disease has not advanced too far, is attended with very little shock if there be no hemorrhage, and with very little danger to life. Indeed, there is little more danger than from high amputation. And the technique of the operation has now become so simple that I see no reason for leaving any portion of the uterus at all if it has been proven to be cancerous. In cases too far advanced, it is probably just as well to scrape the diseased portion and burn with chloride of zinc, or carry out some such procedure.

I rarely use clamps, but have them at hand. I have found, after tying, the same tendency to retraction of the tissues and slipping of the ligature which Dr. Tuttle mentioned in the use of the clamp, and I have learned to avoid this by first placing a temporary ligature around the broad ligament close to the uterus, and then, after cutting the tissue and allowing it to retract, placing the final ligature which is to control hemorrhage. Only lately I have done two operations in this way, in which I think not more than an ounce of blood was lost altogether. Thus far I have not had a death from the operation, although I have not had many cases.

Dr. Buckmaster.—Regarding the case in which Dr. Tuttle desisted from hysterectomy and contented himself with high amputation, I would like to ask the opinion of the members regarding the propriety of doing hysterectomy in any case in which there is vaginal infiltration. I have seen some cases where the operation was denied the patient on account of slight vaginal infiltration.

Dr. Tuttle.—There was no vaginal infiltration in my case at all. The adhesion was due to perimetric organized exudation, not of malignant character, as far as I could judge. The vagina was clean.

Dr. Wylie.—I have met with one complication which has been rather trying in cases demanding hysterectomy; that is old salpingitis. The tissues in such cases are hard and lack elasticity, making the tying and the entire operation very difficult. Whether the tubal disease preceded the cancer or was of cancerous nature I was unable to decide. The only two cases of suprapubic amputation which I have lost in the past two or three years, for whatever disease, were cases complicated by old salpingitis.

Dr. Buckmaster thought his question had not been answered, and added that he could see no reason, if amputation of the uterus was as simple as had been represented, why it should not be done even where there was slight infiltration into the vagina.

Dr. A. Jacobus inquired of Dr. Tuttle whether, in the case in which he abandoned complete removal by the vagina, it would not have proven advantageous to do the operation, working both from above and below.

Dr. Tuttle replied that the operation referred to by Dr. Jacobus was thought of, but the patient was too much reduced to justify it. In reply to Dr. Buckmaster's question, he said: I should not personally advise removal of the uterus for malignant disease if I found the vagina infiltrated. I have had a good many
such cases under observation, but have contented myself with removing the exuberant growth and cauterizing. One or two surgeons, however, have done amputation in these apparently hopeless cases, claiming that the patient's condition is not as bad as if the operation had not been done. We may suspend judgment upon that question for the present.

Dr. Wylie.—I think Dr. Buckmaster's question cannot be answered in so general a way. Vaginal hysterectomy is rendered very difficult where there is infiltration of the vagina forward or to one side, for there is great danger, in such cases, of injuring the ureters. In more than one case operated upon, both ureters have thus been tied by mistake. In the attempt to tie outside the line of infiltration, there is much more danger of including the ureters than where no infiltration exists. If the disease extend in that direction, I should consider it wrong to operate owing to the danger incurred.

Dr. Malcolm Mclfan inquired what had been the longest immunity from malignant disease after hysterectomy performed by American surgeons.

Dr. Tuttle said the longest period without recurrence known to him was five years, in a case of Dr. Bull's.

Dr. Dudley.—I have looked over the statistics of seventy-six cases, and in some there was freedom from the disease over seven years. I believe Dr. Lane, of San Francisco, who was first to do hysterectomy for cancer in this country, shows the best statistics. Some of the patients whom he first operated upon, in 1876-7, are still living.

Dr. H. C. Coe.—The average duration of life subsequent to amputation is not much more than a year.

Dr. Dudley.—In the cases which I collected, the average duration of life was between eighteen months and two years.

Dr. Coe.—The latest statistics on high amputation are by Verneuil, who found the average duration of life to be about twenty-six months.

Dr. McLean.—In my limited experience, recurrence after hysterectomy has been very prompt, but in several cases of high amputation recurrence has been deferred a great many months. One patient, whom I operated upon two years and a half ago, I see frequently, and she looks very well, although nine months ago I detected slight return of the disease. In my experience, cancer of the uterus, unless it take on a very offensive shape, which in a good many cases it does not, proves as little troublesome if let alone. This may not seem a scientific way of looking at the case. I have asked the question regarding the results of hysterectomy, because I would like to be encouraged to do it more than in the past.

Dr. J. E. Janvrin.—I think the ground has been pretty well gone over by those who have already spoken; but, regarding my own practice, I have not attempted extirpation of the uterus in cases of infiltration of surrounding tissues, for the reason that I should expect early recurrence on account of failure to remove all the diseased tissue. That has been the generally accepted view, I think, up to the present time. Where, in beginning to operate with the view of removing the entire uterus, I have found infiltration of the broad ligaments, I have desisted and contented myself with high amputation. Although, as Dr. Wylie has said, the infiltration in the broad ligaments may not be of a malignant
nature, yet I believe it impossible to tell either before or during the operation whether it is simple or malignant in character, but the chances are decidedly in favor of the latter.

Dr. Talbot.—I have had no experience with hysterectomy, but have contented myself with Sims' amputation, and the result has been fair success. One patient whom I operated upon four years ago had almost complete destruction of the uterus, and so offensive an odor that patients could not occupy the bed next to hers. After the operation, only a small, ball-like mass of the fundus of the uterus remained. The patient is well to-day and manifests no recurrence.

Dr. Janvrin.—Dr. McLean has alluded to the advisability of leaving certain cases alone. I would say that in cases in which the disease is advanced, the cervix entirely gone, the vagina infiltrated, the general health run down, there is not much that can be done, but I invariably curette the organ thoroughly, and in several cases have passed through into the cul-de-sac; have used the Paquelin cautery, and usually a fifty-per-cent solution of the chloride of zinc. In my experience, such cases have been greatly benefited by this procedure; the discharge ceases for quite a while, the general health improves, and I am sure that life has been prolonged considerably and made more comfortable. As stated, in several cases I have penetrated into Douglas' cul-de-sac and no harm was done. Within the past four or five years, I have had two cases in which, after beginning hysterectomy, I found infiltration of the posterior wall of the bladder, and contented myself with high amputation. There was no infiltration of the vagina or broad ligaments. One patient lived about three years and a half after high amputation, and then died of recurrence; the second lived only a little more than one year. I have recently seen a case in which the operator removed the uterus and its appendages for cancer, and, although it has been but three months since the operation, the disease has returned and the patient will not live longer than a week or two.

The President.—It seems to me we should not only consider whether we can do a vaginal or suprapubic hysterectomy or a high amputation, but also whether any operation is justified. To decide that question we should consider the age of the patient, the results of the microscopic examination, and what has been the progress of the disease the last few months. In the case last mentioned by Dr. Janvrin, I saw the uterus removed, and the operation was done with considerable skill. The disease seemed not to have extended more than half an inch above the os internum, yet there is no question that it has already returned and is one of the most malignant type of cases. Although the result has been unfavorable, yet an operation of some character was demanded. A high amputation would have been just as useful in her case and in many other cases. It makes a great difference whether the disease is in a patient sixty years old or in one only sixteen. Patients of fifty-five or sixty, according to my experience, will live two or more years, as a rule, without any operation whatever; while the one of but sixteen or twenty has usually the more malignant disease, and must have an operation early, and a thorough one will be required. I suppose no fewer than twenty-five cases of cancer came to me at the Demilte Dispensary when I was attending physician there, and one of them is coming to me yet, and another has only lately died after
more than four years of treatment. However, ceteris paribus, where there is no surrounding infiltration we are justified in doing hysterectomy to-day where four years ago we would have done the high amputation.

Dr. Tuttle.—I would like an expression of opinion with regard to the propriety of hysterectomy for complete procidentia of the uterus. The treatment, I believe, is comparatively new.

Dr. Wylie.—That question has interested me lately. Until recently I believed that all cases of prolapsus could be cured simply by plastic operations. But, having seen two or three failures follow that method, I have considered hysterectomy, and have resorted to it in one instance, although as much on account of the patient’s request as because of special necessity for the operation in that particular case. Ordinarily I sew up any lacerations, cut off a part of the cervix if elongated, sew up the anterior and posterior walls of the vagina if relaxed, doing all the operations at one sitting, and they rarely fail to keep the uterus up. I believe that if the cases are not of too long standing this procedure will prove successful in all. But in old cases in women of advanced age, in whom there is practically a hernia of all the pelvic contents, a plastic operation may fail. In these cases, there is often some further trouble above the uterus, as fibroid tumor. In the case operated upon for hysterectomy, the uterus could be replaced with difficulty and would come down as soon as the finger was removed. I anticipated an easy operation, but, as in Dr. Tuttle’s case, it proved difficult on account of the changed relations of the parts. The uterus had become enormously elongated, and it was necessary to go up five inches instead of two or three before reaching its fundus. The operation is very rarely indicated.

Dr. Dudley.—The operation of vaginal hysterectomy for complete procidentia is not very recent. It has been done a considerable number of times, as I learned while collecting statistics of vaginal hysterectomy for cancer. I did not include those cases in which the uterus was not the seat of cancer. The first time vaginal hysterectomy was done in this country in a case of complete procidentia and malignant disease was done by mistake in 1850 or 1852, by Dr. Eve, of Georgia. When he began his operation, he supposed he was removing simply a cauliflower growth. The tubes and ovaries were removed with the uterus. In all the cases where the uterus was completely prolapsed, the operation, it was stated, was exceedingly difficult on account of the changed relations of the bladder and rectum. I should not undertake vaginal hysterectomy for procidentia, if it were possible, by doing laparatomy, to fasten the uterus up.

In reply to an inquiry by Dr. McLean, Dr. Tuttle said that at the time of the operation he was unable in his case to replace the uterus, and the patient being a thin, emaciated person, without any remains of a pelvic floor, he did not think, if the womb had been replaced, that it could have been retained.

The President.—I have assisted at three operations, and done two at the Post-Graduate Hospital, for complete procidentia, and, while the time has been too short for a final judgment, there has been as yet no descent of the uterus. The organ is less likely to fall after being retained in position two weeks than after only one week. One patient has lately called on me, four months after the operation, and there is absolutely no descent of the uterus, and,
better still, no discomfort whatever at the abdominal attachment.

Dr. McLean.—Why not use a pessary? I have patients, who had complete procidentia, who have worn the Thomas pessary ten years with perfect comfort.

Dr. Tuttle.—My experience with the pessary in these cases has not been favorable.

Dr. Wylie thought that it was just in the few cases where the pessary could not be borne, nor the uterus retained in other ways, that hysterectomy was called for.

HYSTERICAL APHASIA.

Dr. A. M. Jacobus reported a case of hysterical aphasia in a woman who had recently engaged him to attend her in confinement. February 8th, 1889, at midday, she lay down on the lounge to take a nap, and on waking found that she could not speak. It may be stated that her age is twenty-seven, that she has been married seven years, has given birth to two children, has had two miscarriages, and is now pregnant in the eighth month. In her twentieth year, she had a slight attack of chorea in the right leg, and her mother says that her speech was a little thick at that time. About two years ago she had an attack of malaria, and during the height of the fever she had hysterical laughing spells.

Though she was unable to speak after waking from her nap, February 8th, there appeared to be no motor paralysis of any part of the body, but there was complete anesthesia of the upper extremities and body, and slight anesthesia of the lower extremities. The prick of a needle on the upper extremities and face was borne without notice or expression of pain. The pupils were normal and reacted to light. On asking her to protrude her tongue, she did so, and it was directed very slightly to the right. The first day she was able to speak a few words, but on the next day, although she tried, she was unable to utter a word that could be understood. There was no increase of the temperature nor of the pulse. After four or five days, she began to say a few words, like "yes," "no," but seemed to understand with difficulty to-day; the tongue pointed a little toward the right side, and there was still a little hesitancy in speech. Thinking the condition hysterical, she was given a mixture containing asafetida. This was so nasty that she used it only one or two days. The child was very active up to the day of the attack, but for four or five days afterward she could feel no movements, nor could I by palpation. With the return of speech the movements became perceptible, and the fetus is now as lively as usual. The case is of interest on account of its rarity. I neglected to say that sensation is returning, and that during the height of the attack she was unable to write, though a few days later she was able to write her own name, but not her husband's. The patient has since been delivered of a very small but healthy boy.
THE PRESIDENT, who had inquired whether electricity was used in Dr. Jacobs' case, said it had brought back sensation and motion in the forearm and fingers in a case of hysterical paralysis in a physician's wife who had been pregnant nine months. The child was born healthy.

Dr. R. A. Murray said he had seen a number of cases of aphasia from hysteria in Bellevue Hospital, but not in pregnant women, except in one instance at an early month. The electric current was applied and the aphasia soon disappeared.

SPINA BIFIDA COMPLICATING AND OBSCURING BREECH PRESENTATION.

Dr. J. H. Fruitnight.—A case of spina bifida obscuring a breech presentation was lately seen by me in consultation. The attending physician made an examination in the morning, and diagnosticated head presentation. I saw the patient in the afternoon, and made out breech presentation, but on further examination felt a globular body which for the moment puzzled me. I had been positive it was a breech presentation, while the other gentleman was positive it was a head presentation. The globular body could not be entirely bounded, although it was felt to be attached. We awaited developments. The child was delivered easily in the natural way, and as expulsion progressed it was recognized to be a spina bifida complicating breech presentation.

The President.—I remember distinctly a case of encephalic head presentation where the tumor projected so far down that I thought I was touching the breech with my finger, and did not feel quite sure of what I had found until I had obtained reflex action of the feet from pressure on the brain tumor. The instantaneous reaction from pressure led me to suppose that some portion of the brain or spinal column was being pressed upon.

Dr. Murray.—I would ask Dr. Fruitnight what was the location of the spina bifida. It must have been low down to involve the breech, unless it was a slightly transverse presentation. It is usually too high to interfere with a diagnosis of breech presentation.

Dr. Fruitnight.—It was low down.

Dr. Murray.—I have seen a case of hydrocele in which it was very difficult to make out the breech, on account of the enormous extent of the hydrocele. I thought at first it might be a spina bifida in transverse presentation, but the physician who called me to see the case thought it was the bag of waters, and made an unsuccessful attempt to perforate it, first with his finger and then with a wooden probe. Relief was very easy when the nature of the case was made out. It was the only case I have seen in which hydrocele interfered with the diagnosis of breech presentation, and the globular body might easily be mistaken in such cases for spina bifida.

TAMPONING THE PUERPERAL UTERUS WITH IODOFORM GAUZE.

Dr. Tuttle.—It occurred to me that it might be of interest to call further attention to the two cases in which I filled the uterus with iodoform gauze. We get a good many cases at Roosevelt Hospital of women who have passed a fetus and retained the
membranes or placenta. A few weeks ago, one was sent over from the Clinic with a history of bleeding six weeks. The uterus extended up to the umbilicus. I dilated readily, and removed a macerated fetus and large placenta. The uterus was thin, as large as the bladder, with no contractile power. I curetted the cavity, put in iodoform gauze with a drainage tube in the centre, and applied a binder. I recently did the same thing in another case.

The uterus is frequently in a condition in which we cannot get it to contract, and I think it is a safe and wise procedure to fill it with an antiseptic substance like iodoform gauze, which will induce the uterus to quickly contract and become small. I have seen no rise of temperature follow the procedure. The tampon is removed in a day or two.

DR. H. J. Boldt.—I think it was a year or a little more than a year ago that I spoke on this same subject before the Society, and there was considerable criticism of the procedure I had employed. I can now only indorse every word Dr. Tuttle has said. I am satisfied that if the method were universally adopted it would prove very satisfactory to all. I have this moment forgotten who first called attention to it. I have now in mind its use in post-partum hemorrhage where there is want of contractile power in the uterus. It is a very satisfactory procedure, and I use it in all cases.

DR. Wylie.—It seems to me a most important matter, in treating the uterine cavity, especially when there is any septic condition after labor, to secure good drainage. If the treatment spoken of by Dr. Tuttle is necessary to accomplish that object, it might do good. But it might also be employed in such a way as to obstruct drainage. The case would have to be watched. But for stopping hemorrhage, hot water at a temperature of 120° F., injected freely into the uterine cavity, will, ninety-nine times out of one hundred, succeed, and will cause the uterus to contract. The injection of a solution of bichloride, 1:5,000 or 1:3,000, will cause it to shrink considerably. There should be after-washing to prevent poisoning. What I have paid particular attention to is to have the os uteri freely dilated, and kept dilated in order to secure drainage. I do not think I should use the tampon, but if I did it would be one containing iodoform. I would not leave it in the uterus more than ten or twelve hours at most, and would prefer to fix it in a way to permit of ready removal and afterward of introducing another if necessary. But I hardly think such tamponing necessary against hemorrhage when one can obtain hot water.

DR. Tuttle.—In these cases, water as hot as the hand would bear was injected, but the uterus had contained a macerated fetus six weeks, was like a bag, and showed no power of contraction.

DR. Grandin asked Dr. Tuttle whether he employed the faradic current, and, receiving a negative answer, said: I have found the faradic current a valuable nerve stimulant in these cases. One pole applied to the cervix uteri, and the other over the fundus or on the lumbar spine, will cause the uterus to contract, although there may be reaction shortly afterward. This measure, in addition to hot water, ice, and massage, is a remedy which should not be neglected in atony of the uterus, and I think is preferable to packing and distending the cavity. It seems to me the ultimate
result of packing would be to distend the uterus more and to increase the atony. The organ needs stimulation, not distention. If I understood Dr. Tuttle correctly, he said the uterus had been occupied by a dead fetus for weeks, the patient had been bleeding for weeks, and when he emptied the uterus he simply packed it again and thus exposed the walls to further pressure. I should think that would result in the uterus remaining in a state of atony. The substitution of one foreign body for another is not, I think, going to cause the uterus to contract. Where hot water, ice, massage, and ordinary measures fail to make the uterus contract, I think the faradic current is preferable to the tampon of iodoform gauze. Not that I am afraid of using iodoform gauze at all: I do not think it can do any damage, but I question whether, although it did answer in Dr. Tuttle's case, it would answer as well as faradism; and I further believe that the procedure is unnecessary, for I have yet to meet with an instance where the routine measures associated with electricity will not cause contraction and in due time maintain it, the organ having been emptied.

Dr. Coe.—A rational explanation of the benefit derived in Dr. Tuttle's case would seem to be that observed after this mode of treatment in ordinary surgical cases—the prevention of septic poisoning. Tamponnade of the uterus has been employed in the Woman's Hospital for years, especially where an intra-uterine fibroid has been removed and the organ remained large and flabby.

Dr. Buckmaster.—I would call attention to the fact that if the water injected is too hot, instead of causing uterine contraction it will have the opposite effect. Milne Murray determined, by the use of a registering apparatus, that injection of water above a certain temperature is sometimes followed by great relaxation and enormous flow of blood.

Dr. Janvrin asked at what temperature water produced this effect.

Dr. Buckmaster replied that he thought it was above 125° F.

Dr. Janvrin.—Very rarely do we use water above 120° F., even for controlling hemorrhage. Dr. Coe's remark with regard to putting iodoform gauze into the cavity of the uterus after enucleation of a large fibroid tumor may not be exactly appropriate to the subject; but, if I may be permitted, I would say that I have used this treatment in quite a number of cases the last few years. In these cases the fibroid was sloughing. It was impossible to control hemorrhage well or to get contraction, even after the uterus had been washed out carefully with hot carbolized water. I have always employed the iodoform gauze as one long strip, leaving the extremity protruding from the cervix or vagina, so that by no possibility could any portion of it be left in the womb after attempted removal. The results have been excellent.

Dr. Murray.—I cannot conceive how tamponing the uterus with iodoform gauze after delivery at full term can stop hemorrhage. If the uterus were made a firm body afterward by putting on a binder, it would have some effect in controlling hemorrhage. But if a drainage tube is also introduced, it must give vent to the blood, and thus hemorrhage might continue as long as any blood remained in the vessels. Thus I cannot understand in what way such a procedure could stop hemorrhage, unless it were by compression of the aorta. In abortion at the fourth month, we have to do with a uterus in an entirely different state
from what we find it at term. But I do not believe there is one case in ten in which thorough emptying of the uterus will not arrest the hemorrhage, which would render any kind of tampon unnecessary. Regarding the use of the iodoform tampon to prevent sepsis, I think there would be more likelihood of sepsis with its use than without, for by its presence it might interfere with the closure of vessels, and thus favor the entrance of septic matter into the circulation. It may be that in Dr. Tuttle’s case, where the cavity of the uterus had been occupied by a macerated fetus, the iodoform gauze had some effect in preventing the development of sepsis, for the mouths of the vessels in that case were partly closed. I do not think it well to allow the impression to go forth that this Society approves of the tampon for stopping post-partum hemorrhage. Indeed, many patients suffering from post-partum hemorrhage would die before the gauze could be introduced.

The President.—In all ordinary cases, the hemorrhage can be controlled by the usual means, such as hot water, massage, compression, and electricity. But there are rare cases in which, the uterus being diseased at the site of the placenta, more heroic means will be required to arrest the hemorrhage, and I think that here, after thorough curetting, iodoform packing will prove serviceable both in arresting hemorrhage and preventing sepsis.

Dr. Grandin.—I beg leave to take exception to the President’s last remark. Where there is septic infection of the endometrium, I do not see what is to be gained by packing the uterus with iodoform gauze. I should prefer to remove the cause of the sepsis, to remove the degenerated portion of endometrium by the curette, and then to wash out the débris. In my experience, it has been rarely necessary to douche more than once after thorough curetting. I do not see what benefit is to be derived from covering the purulent or degenerated endometrium with iodoform gauze. I would not pack such a uterus. As for the antiseptic effect of the gauze, it has been proved not to exist.

The President.—I do not wish it to be understood that I would pack any septic material within the uterus. I would remove the diseased tissue with the curette, but would be perfectly willing, as I have done more than half a dozen times, to pack the uterus with iodoform gauze afterward.

Dr. Grandin.—If decomposition should take place afterward, its chief symptom—fetor—will be obscured by the odor of the iodoform. It is for that reason that I have always opposed the use of iodoform in the puerperal uterus or vagina. The odor of decomposition is the chief danger signal of beginning or of recurrent local infection, and should never be obscured by medicaments.

The President.—The point made by Dr. Grandin is a good one. It is true there are also other danger signals, yet, if it can be avoided, we should not deprive ourselves of that pertaining to the fetor of decomposition.

Dr. J. Lee Morrill.—I would ask whether, when it is possible that some débris has been left in the uterus, swabbing out the cavity with carbolic acid or tincture of iodine would not have the antiseptic effect of iodoform gauze and at the same time not interfere with drainage.

Dr. J. H. Fruitnight.—I did that last week in a case of miscarriage at the second month. The fetus had been expelled, but,
the secundines remaining, I removed them piecemeal, then curetted, and swabbed out the uterus with a solution of carbolic acid, 1:1,000, after the method of Doléris, of Paris. When I first saw the patient, she had a temperature of 100.5° F. and other indications of septic poisoning. A few hours later those symptoms had disappeared, and she made a favorable recovery.

Dr. Wylie.—Swabbing out the septic uterus with carbolic acid, even pure carbolic acid, after curetting, is not a new procedure. I have been doing it the past ten years.

Dr. Buckmaster remarked that Doléris employed a small brush, and by its use claimed to go over the surface of the uterus much more rapidly and thoroughly than others had done.

Dr. Janvrien.—Twenty-five years ago, or longer, Dr. Trask, of Astoria, reported quite a number of cases of severe post-partum hemorrhage which he had controlled by applying pure tincture of iodine to the interior of the uterus. The method was afterward adopted by a great many others for the control of post-partum hemorrhage.

Dr. Grandin said that it had been his custom for a number of years to irrigate the uterus with iodine and water, or to wipe out the cavity with pure iodine, after curetting. The method was valuable, particularly, from the styptic effect of the iodine.

Dr. McLean.—I wish to say a word in favor of strong carbolic-acid swabs as opposed to weak ones. As Dr. Wylie can corroborate, I have for a number of years recommended and used this method, and have employed carbolic acid strong enough to sear the débris, not simply as a wash for the surface. After swabbing out the interior of the uterus, I press upon the organ in order that no acid may remain. I have no reason to change this plan of treatment.

Dr. A. P. Dudley.—I think it is a mistake to look upon the puerperal uterus as having a mesh of open sinuses pointing into the cavity of the organ. I do not think it is so. The sinuses which feed the fetus run along the wall of the uterus, and there is a thin layer of muscular tissue between the sinuses and the placenta; so that I think the danger of poisoning from absorption during the use of iodoform gauze is not as great as Dr. Grandin anticipates. I noticed this anatomical structure in a case of Cesarean section the past week, in which the placenta was attached along the entire anterior wall of the uterus. I had to cut right through the placenta before coming down upon the fetus. I there noticed the large blood vessels which supplied the placenta running directly across the walls of the uterus, while no sinuses appeared on the surface next the placenta, which was smooth. When I stripped off the placenta, it was like separating two portions of thin leather. The portions of placenta which broke off stood out on the uterine side like little follicles, while an eighth of an inch below that the sinuses were as large as one’s little finger. Therefore I do not think we ought to look upon the interior surface of the emptied uterus as having widely open vessels lying in wait to scoop in any poisonous substance which may come within the cavity.

Dr. Grandin.—I wish to correct a false impression which Dr. Dudley seems to have, that I object to packing the uterus with iodoform gauze through fear of iodoform poisoning. I made no such statement. So far as concerns the appearances which he has seen in the puerperal uterus, they are, if my memory serves me correctly, what are usually described in the books. The general
infection takes place both through the blood and the lymph vessels.

Dr. Dudley.—I made these remarks because the words "openmouthed vessels" have been used in the discussion.

Dr. Partridge.—In making post-mortem examinations, I have always found the sinuses lying, as Dr. Dudley has described, about a sixteenth or an eighth of an inch below the surface of the endometrium. At the same time they necessarily come in contact with placental tufts at various points, and I think that if one will examine the uterus in the condition Dr. Tuttle has spoken of, like a relaxed bag, he will see numerous orifices, as large as the lumen of a quill, when the placenta is being stripped from the uterine surface. There are plenty such orifices from which severe hemorrhage may take place, but I agree with Dr. Dudley that the danger of septic absorption is not through those open sinuses, but by the agency of the lymphatic system.

Dr. Tuttle.—I am gratified with having introduced a subject which has called forth so earnest a discussion. I gave my reasons for putting iodoform gauze into the uterus, beyond that of control of hemorrhage, but it seems they were partially overlooked. The uterus was first thoroughly cleaned; then we used to control hemorrhage, as is our routine practice in Roosevelt Hospital, a solution of Churchill's iodine of the color of sherry wine. We could have stopped the hemorrhage temporarily by the faradic current, and also by introducing the hand while making pressure over the fundus. But those measures could be employed only a short time. Instead, therefore, of introducing the hand, a continuous piece of iodoform gauze was employed, drainage established, and a firm binder applied. As uterine contraction takes place and continues the gauze is gradually withdrawn.

Dr. Murray.—Although Dr. Tuttle expected the gauze to stop hemorrhage by exciting the uterus to contraction, I still think that effect could be produced by less dangerous means.

Replying to Dr. Jacobus, Dr. Tuttle said the uterus in his case did not contain a fibroid.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, March 15th, 1889.

The President, Charles T. Parkes, M.D., in the Chair.

Dr. W. W. Jaggard read the following notes on the

ETIOLOGY OF PULPERAL ECLAMPSIA.

Gentlemen:—At the request of the President, I have prepared a brief outline of some of the more important facts in the causation of puerperal eclampsia. The term denotes epileptiform convulsions, characterized by recurrence of paroxysm after longer or shorter pauses, followed by
unconsciousness, that occur during labor, pregnancy, and the puerperium. As thus defined, the expression puerperal eclampsia restricts us to no particular theory as to etiology.

Happily, the symptom, justly regarded as a disease, is of infrequent occurrence. In general terms, eclampsia is observed once in five hundred deliveries. Out of 316 cases collected by Carl Schroeder, convulsions occurred 190 times during labor, 62 times during pregnancy, and 64 times during the puerperium.

Among the modern theories of etiology, the first, as well in point of time as in present importance, is the doctrine that eclampsia is the expression of acute urinemia, conditioned either upon functional or organic disease of the kidneys, or upon obstruction to the flow of urine through the ureters. The evolution of this conception has been gradual, and it may be profitable to trace the stages of its development.

After the recognition of the association of albuminuria and disease of the kidneys with eclampsia by Lever (1842), Jevilliers and Regnault (1848), Frerichs (1851) advanced the hypothesis of uremia, and suggested that the convulsions were due to the retention in the blood of urea and its decomposition into ammonium carbonate. This notion has become obsolete, since, aside from an isolated observation by Spiegelberg (1870), the presence of ammonium carbonate in the blood in sufficient quantity to cause convulsions has never been demonstrated, notwithstanding numerous examinations of the fluid by responsible chemists. The weak points in the hypothesis of ammonemia have been pointed out particularly by Rouxmaile, Voit, and Bartels.

The notion of the mere retention of urea, without decomposition changes, as the cause of the disease, has been shown to be without basis in fact. Winckel has demonstrated that no such accumulation of urea occurs in the most important organs of dead eclampsics—that is, in the liver and muscles—but that, on the contrary, these organs contain less than the normal quantity. E. Voit and M. Stumpf have observed that the elimination of nitrogen through the urine in convalescent eclampsics is about equal to the minimum excreted in the condition of absolute starvation.

Carl Braun, at the same time that Frerichs published his classical treatise (1851), declared puerperal eclampsia to be identical with the convulsions of Bright's disease. Braun's theory (1857) in his own words is: "The interruption of the secretion of urine in both kidneys, the acute retention of all excrementitious matters (normally excreted by the kidneys) in the blood and tissues, exercises a highly pernicious influence and explains the occurrence of eclampsia." In proof of this theorem, Braun has brought forward an amount of evidence that almost amounts to demonstration. Although certain observers affect a disbelief in this etiological doctrine, yet they all fully recognize it in prevention and treatment. Still, Braun's theory, just quoted, cannot be accepted as
a universal proposition. It explains the very large majority of cases of eclampsia, but it does not explain all cases.

As originally pointed out by Morgagni (1767), and at a later period by Halbertsma (1871) and Löhlein, flexure, infraction, stretching, catarrh, or pressure may prevent the flow of urine through the ureters, and condition, directly or indirectly, urinemia. Although no doubt exists as to the occasional operation of this factor, its etiological moment does not approach the significance of renal insufficiency. Out of thirty-two cases of fatal eclampsia, Löhlein demonstrated dilatation of one or both ureters in eight, or twenty-five per cent. Löhlein concludes that in five of these cases an already insufficient urinary excretion was still further limited, or even entirely interrupted, by retrostasis of urine in consequence of compression of the ureters, so that urinemia and its symptom, eclampsia, followed.

Much light has been thrown within a recent period upon the pathological significance of urinemia. The toxicity of normal urine has been demonstrated, although there is some difference of opinion as to the active agent. Bouchard claims to have isolated five organic poisons, and his observations are supported by Battleuer, who recognizes the ultimate cause of eclampsia to be a decomposition product like a ptomaïne. On the other hand, Voit, Feltz, and Ritter, Astachewsky (1881), Lepine (1885), Stadthagen (1889), maintain the dominant importance of the potash salts, while they admit the effect of the retained nitrogenous matters—urea, uric acid, kreatinina, and the like—in the limitation of tissue metabolism. Closely similar views have been expressed by Nothnagel, Strumpell, v. Jaksch, Fleischer, and Peter.

A plausible explanation of the immediate causation of convulsions in cases of urinemia has been given by Carl Schroeder. The experiments first performed by Kussmaul and Tenner prove that epileptiform convulsions are invariably produced only by ligature of the arteries that supply the brain. It is, accordingly, in a high degree probable that puerperal convulsions are caused by cerebral anemia. How is this cerebral anemia effected? The most highly probable view is that of vaso-motor spasm of the blood-vessels at the base of the brain. In favor of this view there are the following facts: (1) The inability to explain the cerebral anemia in any other way; (2) the sudden onset of the convulsions and the rapid restitutio in integrum; (3) the negative results of autopsies; (4) the effect of remedies that cause dilatation of the vessels of the brain.

As to the causes of the vaso-motor spasm, we have the following facts: (1) The plus state of excitability of the nervous system, observed in pregnant, parturient, and puerperal women as in children, so that a vaso-motor spasm will occur, the operation of a cause that at other times would produce no such effect; (2) the vaso-motor centre is more irritable, especially during labor; (3) with
the predisposition upon the part of the nervous system in general, and of the vaso-motor centre in particular, the toxic state of the blood is amply sufficient to give rise to an explosion. What other irritants are at work it is impossible to say. Possibly, as in epilepsy, irritation of the peripheral nerve-endings—that is, irritation of the uterine nerves, or pressure upon the ischiatic nerves—may play a certain rôle.

Of uncommon interest are the recent investigations of Stumpf. This observer found that when the expired air of an eclamptic smelled of acetone, that acetone could always be demonstrated in the patient's urine, distilled or not distilled. Knowing the relation of acetone and allied bodies and acetonuria to the coma of diabetics, he at once sought for sugar in the urine of the same individuals, and succeeded in showing its presence in all the cases in which urine in sufficient quantity for testing could be collected. Stumpf came to the conclusion that, under abnormal decomposition processes, a nitrogen-free, toxic substance—possibly acetone, or an allied body with the same reaction—is developed that during excretion irritates the kidneys to the extent of nephritis, exercises a pernicious influence upon the coloring matter of the blood, and alters the activity of the liver cells so that glycosuria follows; that this action on the liver cells may go on to destruction of the hepatic parenchyma, the production of acute yellow atrophy with the formation of tyrosin and leucin, and, through irritation of the brain, coma and convulsions. Stumpf leaves to the future the determination whether this body is the result of an agent of infection derived from without, or whether it is derived from the fetus in utero. Winckel is of the opinion that the predisposition to eclampsia in multiple pregnancy, the fatal effect of the eclampsia upon the fetus, the peculiar rigor mortis of the infants, and, finally, the item that with the death of the child in pregnancy the danger to the mother grows less—that all these facts indicate a close relation between fetus and mother in the genesis of eclampsia.

Gustav Braun has reported several cases of eclampsia in which hemorrhagic hepatitis was the most significant lesion.

Suggestive as the observations of Stumpf and Gustav Braun are, facts are as yet too few to admit of generalization. The importance, however, of more exact analyses of the blood and urine in all cases is obvious.

Passing mention must be made of the Traube-Munk-Rosenstein hypothesis, if for no other reason, because Dr. Freer, of Chicago, some years ago performed certain experiments that led him to

broach a similar supposition. Traube's view was that the hydromic state of the blood incident to pregnancy, and increased by the loss of albumin in Bright's disease, constituted the important predisposing factor; that the blood-pressure is elevated on account of the heart-hypertrophy of pregnancy; that, under the reflex stimulus of uterine contractions, blood-pressure becomes so great as to cause edema of the middle brain and cerebral cortex, resulting in pressure anemia that is followed by coma and convulsions. Rosenstein modified this hypothesis by the omission of the effect of the loss of albumin by the blood. He merely eliminated the nephritis. These notions, as well as the conception of eclampsia as a form of acute epilepsy, at the present possess a purely historical interest.

The notion that eclampsia is an example of infection is by no means new. The fact that the disease is always sporadic, never epidemic, renders this hypothesis improbable. But it is quite possible that the Bright's disease may be due in certain cases to infection. Out of five cases recorded by Doléris and Pavey, two were ascribed to an infection nephritis. In these cases, it is claimed that the infection of the blood pursued a course parallel with the convulsive seizures. The experiments of E. Blanc,\(^1\) with microbes isolated from the urine of an eclamptic tend to support this view. Inoculations of rabbits with these microbes were followed by convulsions in some cases, and by infection nephritis in others. Upon this phase of the subject, however, Dr. Bayard Holmes has something to say.

About thirty cases of eclampsia have come under my own observation in hospital and private practice. In all of these cases the etiology was perfectly clear. They were all examples of urinemic convulsions, conditioned upon Bright's disease.

**Dr. Bayard Holmes** made the following remarks

**ON THE RELATION OF BACTERIA TO PUERPERAL ECLAMPSIA.**

It is well known that the subcutaneous injection of normal urine does not result in symptoms of uremic poisoning, while these symptoms are exactly simulated by the injection of nephritic urine. The demonstration of acute nephritis in fatal cases of puerperal uremic convulsions is not wanting. The bacterial origin of many other cases of acute nephritis is most emphatically demonstrated (Babes: *Bact. untersuch u. septische Proesse*, etc., Leipzig, 1889). We have heard to-night that bacteria have been demonstrated in some cases of uremia. On no other supposition or theory have uremic convulsions been satisfactorily explained. A toxemia is conceded by all to be the prime condition of the disease. The normal constituents of the urine do not produce this toxemia; the products of nephritic urine do produce it. Nephritis is usually, if not always, present. This nephritis is sometimes, if

\(^1\) La Semaine Médicale, 1889.
not always, due to bacterial thrombosis or embolism. This is the only adequate cause which has up to the present time been demonstrated in any case. It is in perfect accord with the origin of nephritis under other circumstances.

As there must in all cases be a point of entrance of the bacteria and diminished local resistance, we may be asked to go a step further and demonstrate these. The point of entrance is probably the intestinal tract. The low state of vitality which is manifest in many pregnant women, living after the manner dictated by modern civilization, results in such a low state of general resistance that teeth are invaded and abscesses appear elsewhere. Mechanical constipation produces in the intestinal tract points of arrested circulation or pressure atrophy where invasion takes place into the lymphatics of the mesentery. These bacteria do not need to be pathogenic under ordinary circumstances. They circulate freely in the blood until they come to the kidneys and other organs, where mechanical capillary stasis is present from the pressure of the enlarged uterus, assisted perhaps by improper dress. Under such circumstances, otherwise harmless saprophytic bacteria multiply in the non-resisting but still living tissues of the kidney, and the products of their growth produce coagulation necrosis and all the less marked appearances of nephritis. The extent of these changes need not correspond to the severity of the symptoms. In case the infection produces a very toxic ptomaine, the lesion may be only just enough to prevent its rapid elimination; while, in case the ptomaine is less toxic, the symptoms may be trivial until the suppression of urine is almost complete.

Dr. Daniel T. Nelson read the following paper on

**Diagnosis and Prognosis.**

Puerperal eclampsia is an acute epilepsy in a pregnant woman, due to an acute anemia, rarely a hyperemia, of the brain, produced by poisons circulating in the blood, such as urea, cholesterol, and the like, produced by defective excretion by the kidneys, intestines, and skin. The disease occurs most frequently in first pregnancies. The pregnant uterus pressing upon the ureters tends to narrow their calibre and prevent the discharge of urine into the bladder; or the tissues about the uterus are unyielding, elongating the ureters as the uterus grows, and so preventing the flow of urine; and, in a reflex way, the pressure of the uterus upon sensitive nerves and ganglia in the pelvis, and perhaps from morbid conditions in the uterus and ovaries, acting directly upon the brain, especially the medulla and pons, all the reflex centres being normally exalted in their sensitiveness during pregnancy to facilitate the ordinary processes of nutrition.

The disease is more frequent in irritable and highly sensitive organizations, and in those of corpulent habit, for, in such, excre-
tion is not as thoroughly performed as in others. Sudden suppression of the action of the skin, too, is not an infrequent cause of the disease, causing substances of a poisonous nature to be retained in the blood which would otherwise be thrown off. Puerperal eclampsia, then, is not properly a disease, but rather a symptom of diseased conditions, particularly of the excreting organs.

With this brief description of the disease, the diagnosis is usually easy.

When fully developed, the disease is not likely to be confounded with any other, except true or chronic epilepsy.

The history of the case and the fact of pregnancy will easily distinguish puerperal eclampsia.

Convulsions arising from disease of the nervous centres are likely to be local, affecting only the portions of the body supplied by these centres.

Diseases of the meninges of the brain or spinal cord, producing convulsions, are likely to be attended with pain, fever, and irregular nervous disturbances, which readily point to the location of the disease.

The determination of whether the eclampsia is due to acute or chronic disease of the kidneys is of little moment in diagnosis, but is of great importance in the prognosis of the case.

The most important diagnostic symptoms for the physician to note and rightly interpret are the various nervous disturbances, such as severe headache, dizziness, persistent nausea and vomiting, diarrhea coming on suddenly and watery in character, insomnia, special senses disordered—as dimness of vision, spots floating before the eyes, ringing in the ears, disagreeable taste and smell—disturbance of motor nerves, irregular spasms of voluntary and involuntary muscles, reflexes unusually active.

Edema, general or local, temporary or continuing, should always attract attention to the condition of the excretions, and examinations of the urine be made regularly and frequently. Defective excretion by the bowels and skin should likewise be noticed and corrected.

Poisoning by lead, arsenic, or the preparations of mercury is to be considered, but the history of the case is likely to eliminate these readily.

The examination of the urine is of the greatest importance to determine the presence or not of albumin and the amount of urea excreted.

The intelligent and observing physician is likely to readily detect the premonitory symptoms if he has the opportunity to look for them; but, unfortunately, he is usually first called only after the first spasm has occurred and when the diagnosis is already made.

This is a disease, surely, in which prevention is the best cure.
The prognosis is always grave, and can only be fully determined when the extent of the lesions in vital organs is known and the rapidity with which the excreting organs are carrying off the poisonous substances.

The more frequent the convulsions, the longer they continue, and the greater their severity, the more serious is the prognosis.

The continuance, after delivery, of serious organic disease of the kidneys and lesions of important structures in the brain as the result of the convulsions, will complicate the ultimate recovery and render the prognosis uncertain.

The diminishing frequency and severity of the spasms, with the free secretion of urine, with urea increasing and albumin decreasing, and a subsidence of the nervous disturbances, will enable us to hope for a speedy and complete recovery and no return in subsequent pregnancies.

Dr. Edmund J. Doering read the following paper, entitled:

PROPHYLAXIS OF Puerperal Eclampsia.

Albuminurie during pregnancy may not cause puerperal eclampsia, and eclampsia may occur without a renal lesion, but the fact remains that the danger of puerperal eclampsia is manifoldly increased when a pregnant woman suffers from renal insufficiency, whether the same be organic in character or due to mechanical interference with the renal circulation. It is our duty then to carefully examine from time to time the urine of every pregnant woman. It is unfortunately true that in the majority of cases of pregnancy the urine is never examined. It is also true that in the majority of cases in which the urine is examined, the heat or nitric-acid test constitutes the so-called "urinary analysis." The fact seems to be utterly ignored that the urine may be and often is entirely free from albumin and still indicates the existence of a serious renal lesion. We have not done our duty to our patient, particularly if she be a primipara, till we have determined the exact amount of urine secreted in twenty-four hours, and ascertained the actual specific gravity, so as to know the amount of solids passed, together with a careful chemical and microscopical analysis of a mixed sample. Occasional faint traces of albumin occur in a large percentage of pregnant women, and are of no special significance, provided the quantity and specific gravity of the urine remain normal. But the persistence of albumin, or the presence of casts with or without albumin, or a diminished amount of solids passed in twenty-four hours, indicates the necessity of prompt prophylactic treatment to ward off eclampsia. The patient should be clad in woollen garments. Extra precautions should be taken to prevent chilling of the body by exposure to cold or wet. The diet should consist principally, if not entirely, of milk, which can be consumed in quantity varying from two to four quarts per diem. Fruit and fish may be permitted, also fari-
naceous articles of food and some vegetables. Meats are to be used sparingly, if at all; moderate exercise may be advised. The therapeutic indications are, of course, to keep up a free action of the skin, bowels, and kidneys. Warm baths should be regularly employed. The bowels should be moved daily, and an excellent laxative for this purpose is cream of tartar in tablespoonful doses every morning. Compound jalap powder has also a favorable action. In anemic subjects, iron in the form of Basham's mixture given several times daily will be of decided benefit, being tonic, diuretic, and diaphoretic in its action. Infusion of digitalis, in combination with acetate, citrate, or bitartrate of potassium, is also an excellent remedy. The patient should be advised to partake freely of fluids, and Vichy, Buffalo Lithia, and London derry Lithia waters are specially indicated. If there is great nervous irritability, rectal injections of chloral at night will be of great service. Finally, if we have exhausted all these measures and the symptoms become worse, the dropsy increases, or the central nervous system becomes involved, the induction of premature labor may have to be seriously considered or become absolutely necessary.

Dr. Charles Warrington Earle read the following paper, entitled

THE TREATMENT OF Puerperal Eclampsia.

The attack has appeared. The parturient, either before or during or after labor, is in the midst of one of the most formidable and perilous complications which ever occur to one in her condition. There is danger to both mother and child, and the treatment of this terrible complication should engage our earnest attention.

Notwithstanding everything which has been suggested by my colleague in the way of prevention, and the improvement in treatment which has been made during the past twenty years, puerperal eclampsia still remains the bête noire of obstetrics.

According to many of the older teachers, one-half of the patients attacked with the disease died; and in all the cases which Fordyce Barker could collect up to 1855, thirty-two per cent of all occurring before and during labor, and twenty-two per cent of those after delivery, ended fatally. In this gentleman's practice to 1874, the mortality had diminished to fourteen per cent.

Any treatment decided upon must necessarily be varied according as that treatment is administered to one early in pregnancy, during parturition, or after delivery.

The means for treating this terrible condition may be ranged under the following headings. And it is not intimated that every drug which has been used, or every procedure suggested, is mentioned.

I will consider very briefly:

Evacuants and Detergents.
Nerve Sedatives and Anodynes.
Anesthetics.
Bleeding.
Operative Measures.
The remedy indicated, or the procedure which offers the best result, differs according to the time of the eclamptic attack. The treatment, then, whatever it is to be, should be considered during the following periods:
Before, during, and following labor.
Whatever the time may be, however, or what plan of treatment it is proposed to inaugurate, it goes without saying that nothing of an exciting nature which can be avoided should be used; that the surroundings should be such that good air and freedom from incumbrances as regards clothing, etc., are insured. If vaginal examinations are objectionable to her, no more than simply enough to acquaint ourselves with the absolute progress of the dilatation of the os should be made. Indeed, every cause which may produce worry on the part of our patient must be avoided.
We must remember that, however well demonstrated the uremic theory may be to us, there have been during all times a goodly number who believe that puerperal eclampsia is a neurosis, and that any reflex irritation of the spinal system is liable to exaggerate the convulsions.

Treatment during Early Pregnancy.
Sometimes the attack has been expected; for while exceptionally it takes place without any premonitory symptoms, usually there is edema, or a terrible neuralgia, or a condition of the nervous system that has caused the experienced accoucheur to expect it. The patient has had preventive treatment. It does not suffice: the convulsion is on. We must now shape our treatment for this case with the knowledge that a single convulsion may cause the death of a patient, and that it is the rule that usually in two days either a cure is effected or a serious complication makes its appearance which will prove fatal.
As I remarked before, the convulsion is on. As rapidly as possible these things should be done: A little chloroform given; the patient put into a hot bath, and a non-irritating cathartic—one which will produce a large, watery stool—administered. Whatever procedure may be adopted later in the case, it appears to me that the foregoing treatment is plain. Of course, as adjutants, a hypodermic of morphia may be given, and a dose of chloral either by mouth or rectum. The question will also arise at once as regards the expediency of using pilocarpine as an aid in the elimination by the skin of retained excrementitious matters. The value of this remedy will be discussed later.
More than a passing notice should be given to the hot baths. They are extensively used in many of the largest obstetrical hos-
pitals. "The patient is placed in a bath-tub filled with water at a
temperature slightly above 99° F. The tub is then covered with a
heavy blanket, leaving the face free, and the temperature of the
water is gradually elevated to 110° or 112° F. She remains in the
bath thirty minutes. A towel wrung out of ice-water and placed
upon the head relieves any distressing cephalic sensations.
While in the bath the patient drinks large quantities of water.
Upon emerging from the bath, she is covered with a warm sheet
and enveloped in an upper and lower layer of thick blankets, so
that only the face is exposed. Within a very few minutes free
perspiration is observed. The sweating is continued for two or
three hours. According to the gravity of the case, the hot-water
bath may be repeated once daily for an indefinite period. The
relief of all threatening symptoms under this simple plan of treat-
ment alone is surprising. Sometimes the hot-water bath acts as
an efficient excitant of uterine contractions, and premature labor
is induced."

Concerning the usefulness of chloroform and chloral, there is in
my mind no doubt. Their administration has been opposed, but
in my judgment they are exceedingly useful.

Some of the most brilliant recoveries in the literature of obstet-
rics have come about from hypodermines of morphia, rectal admin-
istration of chloral, and the inhalation of chloroform. I should
not fail to suggest, even in a case where the convulsions are occur-
ring early in pregnancy, the propriety of venesection. I am in-
formed, however, that this particular line of treatment is to be
presented by others. I will probably refer to it later.

In the case I have supposed, if the convulsion persist for a long
time or if the attacks come frequently, the question of the induc-
tion of labor would come to my mind. Here, however, I approach
a subject concerning which authorities do not by any means
agree.

The question comes fairly before us early in pregnancy, or any
time before labor commences with the os not dilated. Are we
justified in attempting an operation the irritation of which may
possibly produce a convulsion, and the completion of which may
not cause a suspension of the attack for which the operation is
commenced?

I range myself along with those who would consider the pro-
piety and justifiableness of carefully—while meeting all thera-
peutic indications—evacuating the uterus of its contents.

Treatment of Eclampsia during Labor.

Some of the factors entering into the treatment of convulsions
during pregnancy or before full term, and which are not fully
agreed upon by the profession, do not engage our attention at this
time; for instance, the induction of labor, either in the interest
of the mother or child. Labor has already commenced; the con-
vulsion is present.
To me there is no question as to the propriety of hastening labor by every means possible, and the possibility of producing a convulsion by artificially dilating the cervix is so small that it need not be entertained.

In a considerable number of cases which I have collected from the journals published during the last two or three years, and which do not enter into any of the tables published in the textbooks, there are some data favoring venesection at the time. Indeed, Swayne says that in thirty-four cases occurring in his practice, bleeding, anesthetics, and delivery—in the order named—have given the best results.

Jas. Murphy (Lancet, 1886), however, in the treatment of five cases with pilocarpine as the principal remedy, aided by other adjuvants, has saved all his patients. His plan is to inject subcutaneously from one-fourth to one-third grain of this drug every six hours, and his results are certainly remarkable. In one of his cases thirty-three convulsions occurred during the seventh month, but after the use of the pilocarpine premature labor was averted and a healthy child born at term.

Returning, however, to consider bleeding, it should be said, according to Kucher, that this procedure has been entirely abandoned in the Vienna clinic, and the same author says that it is very doubtful whether it ever has any beneficial effect whatever. In fifty-two cases, upon which he bases his paper, only seven were fatal. This is an excellent showing when we consider that the mortality was formerly twenty to thirty per cent. They depend in the Vienna hospitals upon diuretics, diaphoretics, and cathartics. It is also believed that the indication is to expedite labor by all reasonable means, but that too active interference is more dangerous than the eclampsia.

The use of veratrum viride, since the days of Fordyce Barker, has had its advocates, and more recently, in a discussion which took place at the Ninth International Medical Congress, it found a considerable number of advocates. Dr. Jewett, of Brooklyn, in an experience of twenty-six cases, seems to show that in veratrum viride, if given early, we have a well-nigh certain means to prevent death from puerperal eclampsia.

Some one has said if the pulse be kept at 60 by veratrum no convulsion can take place. Dr. Jewett gives the drug hypodermically, and keeps the patient quiet and in the recumbent position.

Breus has had remarkable results from the hot-pack—seventeen cases and only two deaths. It is claimed for this treatment that it does not induce abortion or premature labor. Patients are immersed in the hot bath, and its action continued by the hot pack in blankets.

In many cases the results are not as good as they might be, from the fact that the details of treatment are not fully and faithfully carried out.
If chloroform is used it should be continuous and its effect profound. If chloral is to be used, and cannot be given by mouth, thirty or forty grains should be given by rectum, and repeated in twenty minutes, if necessary.

With the present light on the subject, it appears to me that for convulsions at full term the hot bath, anesthetics, and a termination of labor as rapidly as can be done without injury to the soft parts, is the treatment for to-day.

For Convulsions after Delivery.

Here factors are wanting which were present while the woman was in labor. The uterus has been emptied of its contents, but the convulsions continue. The induction of labor or rapid delivery by version or forceps cannot now be considered. Control eclamptic attack with anesthetics, and eliminate with all rapidity by the skin, bowels, and kidneys. In addition to the hot bath, we now have the pilocarpine, aided by what seems to me the best cathartic—elaterium. To produce the full effect of the last-named drug, it seems to me that we should have at our command as potent a hypodermic tablet as we have of pilocarpine or morphia. This is particularly true for cases who cannot swallow.

To sum up, then, we have:

1. For convulsions before delivery: The hot bath, morphia and pilocarpine hypodernically, chloral and bromide of potassium by mouth or rectum; veratrum viride to reduce heart's action and lower arterial tension; possibly bleeding; the induction of labor.
2. For convulsions during labor: The hot bath, morphia, chloral, anesthetics; a rapid delivery with all precautions.
3. For convulsions after labor: Control eclampsia by anesthetics, and rapid elimination by all the emunctories.

Dr. William E. Clarke read the following paper on

Bleeding in Puerperal Eclampsia.

From the earliest dawn of medical science to within the memory of some of the Fellows of this Society, blood-letting was almost universally regarded and employed as one of the most valuable of remedies. In the discussion, this evening, of the curative treatment of puerperal eclampsia, especially in reference to venesection, the subject officially assigned to the writer, it may be well to inquire how much the present popular disfavor of the remedy and its disuse by the profession is due to popular clamor, to the caprices of fashion, to the vagaries of pseudo-practitioners, or how much to the advancement of pathological knowledge and the deductions of sound scientific research.

Popular clamor and the blind zeal of the pseudo-scientist and misguided reformer have had very much influence in the matter. Samuel Thompson, the founder of the so-called Thompsonian system, author of "New Guide to Health and Life and Medical
Discoveries," published about 1825, had a great following. A large number of illiterate men took upon themselves the title of Thompsonian doctors and commenced to practise. They all took strong ground against blood-letting and all antiphlogistic treatment.

Homeopathy has had a powerful influence upon an entirely different class—a class of much more social influence, with imaginations far more exalted, but with reasoning faculties developed in inverse proportion. Blood-letting in any form has been the salient point of all their attacks on the lines of rational practice. The secular papers took up the cry, and Horace Greeley, the sweetheart of the reformers of the period, in his capacity of editor joined in the cry of Blanche and Tray that the blood was the life, and to take away the blood was to take away the life.

Some thirty-nine years ago a petition was presented to the Legislature of New York, praying that blood-letting might be made a penal offence. But blind and unreasonable prejudice against bleeding has not been confined to the non-professional or to the illegitimate practitioners. A few in the regular profession have vied with the charlatans in their efforts to bring this remedy into reproach.

In a paper read before the section of Obstetrics and Diseases of Women of the American Medical Association in 1884, on "Laceration of the Female Sexual Organs Consequent on Parturition: their Causes and Prevention," the distinguished writer, Dr. Gross, took strong grounds in favor of the lancet. In the discussion that followed, one member, after stating that he had never bled a woman—thus virtually confessing that he knew nothing of the effects of such a procedure—advanced the argument that, according to Dr. Gross' views, a woman ought to be born with a lancet about her neck to meet the difficulty. This sage remark was received with rapturous applause, but no one ventured to inform the section whether their all-sufficient remedies, chloroform and mor- phine, had ever been found in that particular locality.

Another member, a gentleman of prominence in the profession, speaking of a woman who, as he expressed it, had received poison into her system and fever had been produced, asked the question, "Why bleed such a woman, lessen her vital powers, take away her blood, which is 'the life thereof'?" thus basing his pathology on the Pentateuch. In his advocacy of sedatives, he gave no reason why he did not let the life flow with all the force and volume possible instead of damming it up in the vessels of the brain by sedatives. Even he, the strongest critic of the paper, said he would bleed in some cases of puerperal convulsions. Allison, in 1856, assumed that the type of diseases had changed from a higher to a lower type, and that while bleeding and other antiphlogistic remedies twenty years before were useful, at that period they were harmful.
Dr. Bennett contended that there had been no such changes in the type of diseases: that bleeding and other antiphlogistic remedies were contra-indicated, in all internal inflammations, by principles of sound pathology.

To the writings of these men, together with Dr. Flint of our own country, is probably due, more than to any other respectable medical writers, the changed views among the regular profession. Still, Dr. Bennett, in the discussion with Dr. Watson on this question, agrees with the latter that we should so bleed as to secure its advantages and avoid its disadvantages.

The writer of this paper, during a stay in Washington, made a very thorough examination of the literature of this subject in the library of the Surgeon-General's office. He found that the consensus of a very large majority of the eminent members of the profession who wrote on the subject, during this war on blood-letting, is in favor of it, particularly in selected cases of puerperal eclampsia. He further believes, from his clinical observation in a practice of more than forty years, that in cases of puerperal eclampsia where there is turgescence of the vascular system, or in cases of uremia, bleeding is called for to relieve vascular tension and to remove damaged blood from the system.

In 1855 the writer reported to the Chicago Medical Society a case of eclampsia that was promptly relieved by bleeding, after chloroform had been used, only apparently to increase the plethoric condition of the patient. The report was published in the Medical Journal of June of that year.

The writers of that day usually described puerperal eclampsia under three distinct varieties: hysterical, epileptic, and apoplectic. The position taken in the report was that chloroform was the only proper remedy in the first variety, and bleeding in the two others.

To the principles recorded in that paper the writer still adheres, and in some ten cases, four of which have been seen in company with Fellows of this Society, the lancet has been used with happiest results. In one case, also seen with a Fellow of this Society, no blood was taken, as it was regarded as hysterical, but the convalescence was far more tedious than in any of the others. In no case coming under his observation has he seen any of the evils attributed to the abstraction of blood, but he believes that he has seen suffering and death which might have been averted by the timely and judicious use of this much-abused but potent remedy, if the attending physician had not been prejudiced or had had the moral courage to resort to its use. The attention the subject is receiving from the profession is a hopeful indication that venesection is soon to resume its place as a valuable therapeutic measure.

Dr. Edward Warren Sawyer, in opening the discussion, said:—I think I express the sentiment of the meeting when I say that the subject has been presented to the Society in the most
masterly way. I think its clearness and the interest in the subject have been increased by the plan adopted by Dr. Jaggard in the presentation of the subject.

Concerning the subject of eclampsia I have but two points to speak of, and both concern its etiology. I recall very distinctly a most interesting conversation upon this subject that I had with the late Joseph Freer, who had experimented extensively with reference to ascertaining the condition of the urine in eclampsia, and the effect of that urine upon the lower animals when injected into the veins. His chief conclusion was that eclampsia was not due to uremia as much as popularly thought, but that it was really due to anemia of the brain; this condition being effected by the edema of the brain of the eclamptic subject.

The second point which my practice has demonstrated to me effectually is that the danger or the fatal results of eclampsia are not proportionate at all to the amount of anasarca presented by the patient. In fact, of the four cases of eclampsia of which I have a very distinct recollection, the two fatal cases scarcely presented any anasarca, while the cases that recovered presented an anasarca that was never before seen by me. In both of these cases the degree of anasarca was such in the genitals that the patient could not possibly approach her knees—such a deformity I had never before seen; yet both cases recovered. In one, vision was nearly lost for a number of weeks; in the other, hearing was greatly impaired. In the fatal cases, there was less anasarca than is usual in the primipara, and it was limited to the feet. In one of the fatal cases, the urine had been examined during pregnancy and no albumin found, but within five minutes of the birth of the child she had eclampsia followed by death.

Dr. W. H. Byford.—I had hoped that I could shirk the responsibility of engaging in this debate, but I have been so much entertained with the papers read that I feel it would hardly be fair in me to decline saying something on the subject. These papers have thrown me into a kind of reverie or retrospection, causing me to look back to old times and to follow the subject down from the years of which Dr. Clarke speaks to the present time, recalling what the pathology of the disease was at that time and what the therapeutics were as compared with the present. At that time, doctors used to consider the pathology of eclampsia as apoplectic in character. We thought there was either a very great congestion of the brain unattended by effusion, or that there was great congestion of the brain attended by effusion of blood or serum, and in the dissections of cases at that time it was a very frequent thing to find clots of blood in the substance of the brain. Another thing was quite remarkable then, and I think if we watch cases of that kind that die we will now see symptoms indicating edema of the lungs. Those lesions seem to have been the anatomical pathology of the disease at that time. We had no idea, as at present, of the etiological pathology of eclampsia. I do not remember that anything was taught upon the subject of etiology, especially anything separate from the anatomical conditions of which I have spoken. If we reasoned upon the subject at all, we supposed that the pressure of the uterus upon abdominal vessels and those of the chest through the diaphragm caused hyperemia of the brain because of the partial exclusion of the blood from those vessels, both venous and arterial. Pressure upon the abdominal aorta prevented the arterial blood from being thrown
so plentifully into the inferior extremities, and diverted it to the brain. We believed that this resulted from the pregnancy, and that the full effect of the cerebral hyperemia thus caused depended upon some constitutional condition with which we were not acquainted. That kind of reasoning upon the pathology of eclampsia led us to a practice which is very different from the practice of the present time. Tracing the disease to a congestion of the brain or to an effusion of blood in the brain, we believed the best preventive measure and the best curative measure was evacuants—something to lessen the quantity of blood in the system and at the same time prevent the large quantity of blood being thrown into the brain through the circulation, giving Nature time to correct herself by delivery, etc.

I am caused to remember, since sitting here, some cases that to me were exceedingly interesting, especially in view of the therapeutics of the present time. I remember one instance of the wife of a neighbor being taken with eclampsia of a very severe character at the end of the eighth month. She was a strong, healthy woman, and, as was the custom at that time, I bled her sitting up, until her pulse became small and her face pale, and other evidences of syncope presented themselves; I gave her, as a thing calculated to carry the blood away from the brain, and which was a very common prescription then, croton oil. This, of course you know, produces great revulsive influence from the head to the intestinal canal, and in that way we supposed relieved the symptoms. That woman had two convulsions after she was bled the first time: then she was bled a second time in the course of two hours after the first, and she had no more convulsions; the oil also operated at that time. She went to the end of the nine months, and was delivered of a fetus that had died at the time the convulsions occurred.

To sum up my experience in that kind of treatment, I will say that I had pursued it until I came to Chicago, twenty years from the commencement of my professional career, and I do not remember that I had seen a patient die of eclampsia until I came here. The first case I saw was in consultation with Drs. Johnson and Freer at one of the hotels here. The patient had eclampsia and was only about six months pregnant. We discussed the subject of treatment, and I was astonished, as she was a strong woman, that nothing was said about bleeding; but venesection had been dead several years in this part of the country, and I could not induce them to think that it was a proper remedy. That was the first patient I ever saw treated without venesection, and the first patient I saw die. I agree perfectly with the sentiments expressed in the paper on the etiology of the disease. I think it is perfectly rational to trace it to a kidney origin: I think that our pathological observations have proven that there is poison of some kind produced by retention of some of the constituents of the urine. Something occurs in the kidneys that prevents their depurating influence, and there accumulates in the blood a considerable quantity of excrementitious matter that ought to be eliminated, which seriously affects the nervous centres. It is an interesting thing to speculate upon, at least, if we cannot demonstrate what are the exact effects produced upon the nervous centres by the circulation of that poison through the vessels of brain and cord. While I believed that the circulating poison was carbonate of ammonia, I could easily understand its exciting influ-
ence on the brain. It is possible the same irritating effects are produced by other excrementitious substances, causing irritability of the brain that gives rise to these convulsions. I do not at all subscribe to the idea that cerebral anemia is necessary to these convulsions in the beginning; I am sure it is not present as the case advances. These cases begin with epileptic symptoms, and they generally end with apoplectic symptoms. I believe in the beginning there is not much vascular excitement in the brain, but the terrible convulsions and the great cramps, especially in the chest, produce such a determination of blood to the brain as to produce organic effects in it.

As to my present ideas with reference to the treatment of eclampsia, I agree with Dr. Earle in the majority of his conclusions, and shall not express them in detail. But in the general way of treating these patients, leaving out the considerations of delivery, I believe it is better for us to begin, especially in patients of strong plethoric habit, by copious venesection. In the old days when venesection was done, we did not count the ounces of blood as a reason for bleeding no more, but we bled to produce an effect, and sometimes we bled three or four pints at a time. And I think now if we can have a patient early, and the pregnancy has not terminated, the best thing to do is to bleed to reduce the quantity of blood, and consequently reduce the force of the circulation and acrid character of the blood by the rapid absorption of lymph which follows. After this is done we should give an active cathartic to work off any accumulation in the intestinal canal and produce revulsion. During the whole time after bleeding we should keep the patient constantly under the influence of chloral. Chloroform bears no comparison, in its effects upon eclampsia, with chloral, and one reason is that you do not know how much chloroform the patient is inhaling. Certainly there is no sense in holding a sponge of chloroform to a woman when she is in convulsions, for respiration is suspended until the convulsion ceases; it is impossible to get it into her system while the air is thrown out of the lungs and the chest closed by clonic spasms, but you can give chloral by the stomach or by the rectum, and keep up its influence to a recognizable degree. These remedies must be supplemented by the treatment which Dr. Earle so intelligently presents. I think very favorably of pilocarpine. I think it is a most excellent addition, because it serves to promote the secretions to such a great degree.

Dr. J. S. Knox.—I did not have an opportunity to hear the papers, and therefore can only report my personal experience in the management of eclampsia. My introduction in medicine was under the direction of an old and skilful country doctor, who was decidedly in favor of venesection. He used to bleed in labor for irritable os, for rigid perineum, for the prodromal symptoms of eclampsia, and he always bled for eclampsia. I never knew him to lose a case, and he told me he never had lost one when he bled early enough. I was impressed, therefore, with the idea that venesection was the treatment for eclampsia. I have always followed it, and in ten cases that have come under my observation, seven were bled and recovered, three were not bled and died. My treatment has been to bleed, as Dr. Byford expressed it, copiously, drawing from fifteen to twenty ounces of blood from a large orifice, and I never yet have seen a woman so anemic that I hesitated to employ this method. After the bleeding, I give half a
Dr. F. Henrotin.—I did not hear the first papers on the etiology of the disease. In the first fifteen years of my practice I never met with a case of puerperal convulsions, but in the last five or six years I have happened to come across quite a number of them. And I have in my own mind divided those cases into two varieties. On the one side are the cases that give rise to symptoms long before delivery; cases that are accompanied by a great deal of edema, both of the genitals and of the limbs; cases that draw attention to the fact that albuminuria is probably present, which is usually found to be the case. And it always seemed to me that those cases having such symptoms were best treated by venesection, catharsis, and pilocarpine. On the other hand there are a few extremely severe cases occurring in patients who had shown no edema, who usually had shown no symptoms whatever before delivery, but were supposed to be perfectly healthy, and in whom the convulsions occurred either at the time of labor or several hours afterwards. In two of these cases I have seen venesection tried without any effect whatever, while, in the cases that gave rise to edema, venesection, which has always been followed almost as a routine practice by me, has always seemed to be of a great deal of benefit. Those patients that were affected very late in pregnancy or after delivery, that did not give any symptoms whatever where albuminuria was not present at all, seem not to have been affected in any way whatever by venesection, but seem to have been helped by morphine and narcotics; while those that resembled more particularly cases of the uremia that we get after scarlatina, those cases of supposed large, white kidney in which albuminuria is a prominent symptom, those cases seem to be affected favorably by venesection, and in such cases coming under my observation, with one exception, all recovered.

In regard to drugs in this disease, I would say that I believe from personal experience that the giving of pilocarpine hypodermically, while the patient is unconscious, is capable of actually drowning the patient by the excessive flow of saliva and increased pulmonary secretion, so that I would advise caution in its administration.

Dr. H. P. Merriman.—We all realize the extreme importance of this trouble, and it seems to me that what has been said during this evening covers almost the whole ground.

There are one or two additional thoughts, however, of very little importance probably, that have been running through my mind as I have been listening to the papers and discussion. One of these is that we have, I think, cases of convulsions in puerperal women that are like the cases of convulsions in infants, not due so much to direct blood poisoning, and not due so much to centric lesions, as they are to irritations that are remote from the nervous centres. I cannot help thinking that sometimes we have, from the irritation of the gravid uterus, a certain amount of trouble that would be removed simply by the removal of the fetus from the uterus. I do not think that this has been mentioned as a cause of the convulsion, although we are referred to it in the treatment of the disease. But it strikes me that, as often the ingesta of infants has produced convulsions by its irritation of the intestinal canal, so we find that there is a state of irritation of the nervous system from the presence of the fetus, acting as the cause...
of convulsion. The remedy has already been mentioned—that of delivering the child.

I have been so fortunate as to have very few cases of puerperal convulsions. I have had one fatal case, and only one, and this was in a woman whom I had attended in a previous confinement in which she had convulsions, and in which the use of chloroform and rapid delivery by forceps was sufficient to stop the convulsions, which did not return; the child also lived. But in her next pregnancy, about two and a half years later, she had a sudden attack of convulsions at six months. I was sent for, and found her having one convolution after another. I called in Dr. Roller in consultation, who came, and we went to work and delivered her as soon as possible. There was a reasonable amount of flow from the uterus after delivery, but the convulsions continued; she never rallied from them, and died about six hours after the delivery of the child. She was not bled, nor were any of my other cases. I had believed that other remedies were better, and I neglected to use venesection. I still believe there are many of these cases that do not call for venesection; many of them are hysterical, due to extreme nervous excitement on the part of the woman. There is not a great vascular tension, and the call is more for sedatives, anesthetics, and for evacuating the uterus than for blood-letting.

Dr. Ely McClellan, U. S. A. (present by invitation).—A medical officer in the army has of necessity but few opportunities of seeing these cases, but even in our isolated lives occasionally great emergencies come upon us. I can simply speak as far as my experience goes in such cases, and it is limited, but it is decidedly in favor of the use of chloroform and of rapid delivery. The few cases that have occurred in my experience have terminated favorably by the induction of labor, by version carefully performed and as rapidly terminated as possible. Then the therapeutic indications are those which have been laid down. Only three or four cases, in a service of nearly twenty-one years, have fallen to my lot, and with the treatment outlined they have all terminated favorably.

Dr. W. W. Jaggard, in closing the discussion, said: It is scarcely possible to accept everything that Dr. Bayard Holmes has said. Normal urine is toxic, and when injected into the veins of rabbits it will produce convulsions.

It is possible that in certain cases the nephritis of pregnancy may be an example of infection. But the sporadic occurrence of the disease, the apparent selection of primipare, and cases of multiple pregnancy, tend to show that the operation of this factor is not general. Staude calls attention to the predisposition to the disease observed in case of pelvic contraction and where the fetal head is of uncommon size. Pressure on the pelvic blood-vessels causes an increase in the general blood-pressure that ultimately reacts upon the kidneys. Eclampsia appears among the rich and poor alike. Its victims are oftenest young, healthy, blooming women in whom it is reasonable to suppose the physiological resistance of the tissues is not notably lessened.

Dr. Nelson and Dr. Merriman have touched upon an important item in prognosis. What is the probability as to recurrence of eclampsia in subsequent pregnancies? A guarded answer must be returned. In general, eclampsia in a first pregnancy seldom means a recurrence of the disease in succeeding gestations. When all symptoms of nephritis disappear within a short period
after delivery, the probability of immunity becomes almost a certainty, so that eclampsia in a first pregnancy, per se, is not an indication for the prevention of conception nor for the induction of abortion. If, however, symptoms of Bright’s disease, no matter however latent, persist, the patient should be warned against conception. In case of conception and the development of albuminuria early in pregnancy, I am of the opinion that the induction of abortion ought to be seriously considered.

The value of the hot-water bath is greatest in the prevention and least in the cure of eclampsia. Used as described by Dr. Earle—the Vienna plan—it is by far the most efficacious procedure that we possess in the prophylaxis of the disease.

As to the treatment of eclampsia during pregnancy, the weight of evidence and opinion is decidedly in favor of an expectant plan of treatment, unless abortion or premature labor is imminent. Wait until the seizures are well over and until convalescence is established before interrupting pregnancy. If, however, abortion or premature labor is imminent, the indication is to aid in the evacuation of the uterus.

In eclampsia during labor, three indications are clear:

1st. After the insertion of a gag and the protection of the woman’s body by pillows and the like, the indication is to control the convulsions by profound narcosis. The choice of remedies is not so important as that the narcosis shall be deep and continued. Chloroform is by far the best agent to control the seizures, while the narcosis can best be maintained by large doses of chloral and the bromides exhibited per rectum. Winckel,¹ who relies exclusively upon chloroform inhalations and chloral per rectum, has had only seven deaths in ninety-two cases. As at present informed, this result is better than that obtained by any other plan of treatment on record.

2d. The second indication is to evacuate the uterus as rapidly as may be consistent with the safety of the mother and child. Experience teaches that the convulsions cease when labor terminates in about one-third of the cases, in one-third they grow less frequent and severe; only in the remaining one-third do they continue without change.

Early in the first stage of labor, before effacement of the cervix and dilatation of the os, puncture of the membranes is commonly the best means to accelerate labor. The escape of the liquor amnii is not infrequently followed by an abatement of the convulsions. Later in the first stage, after effacement of the cervix, digital dilatation of the os externum is often indicated. It is seldom necessary to incise the os externum.

Delivery may be completed by the forceps or version and extraction, according to the conditions of the concrete case.

3d. The third indication is to eliminate the retained excrementitious products of the urine by diaphoresis, purgation, and diuresis. The hot-pack is probably the best means. I think Dr. Earle will encounter some difficulty when he attempts to put an eclamptic in the hot-water bath, besides running the risk of drowning his patient. The vapor bath, by means of the alcohol lamp, is efficient and easily exhibited. Pilocarpine must be used with extraordinary caution, only in the beginning of the disease, when the coma is light, the pulse full, and the respiration

¹ Lehrbuch der Geburtshülfe, 1889, p. 590.
free. Deep coma, weak heart, and beginning edema of the lungs are absolute contra-indications. The evidence upon this point, brought forward by Fordyce Barker, Kleinwächter, Sänger, Welpner, Schramm, Klötz, Carl Braun, Winckel, Schroeder, and others, is decisive. The unqualified praise this remedy has received this evening must be taken cum grano salis. Dr. Henrotin is right in saying there is grave danger of drowning the woman in her own secretions.

Finally, there comes the question of bleeding. Nearly every Fellow of the Society is present to night and has taken part in the discussion. Every speaker has commended bleeding in the strongest possible terms. There may have been slight differences of opinion upon other points, but all unite upon the item of venesection. Bleeding is the specific treatment of eclampsia. But no one has given a reason why he bleeds, neither has any one presented a series of cases that demonstrate the value of phlebotomy. There are at least three good reasons why we should not bleed in urinemic eclampsia. 1st. The procedure is without important effect upon the demonstrated cause of the disease. The amount of excrementitious material that can be eliminated by bleeding is comparatively trivial. Blood-pressure cannot be depressed for any considerable period of time, unless the patient be dangerously exsanguinated. Hemorrhage into the brain, as a consequence of puerperal convulsions, is an extremely rare finding. The indication for bleeding in eclampsia is not stronger than in the convulsions of Bright's disease in the male and non-pregnant female. None of the Fellows present, I am certain, would bleed in the latter affection.

2d. Clinical experience teaches that much better results are now obtained without bleeding than were formerly observed when venesection was commonly practised. In support of this proposition, the verdict of the Vienna (Kucher) school of obstetrics must be cited: "In the Vienna clinics, where the results of treatment are far better than anywhere else," blood-letting has been completely discarded. Winckel's (Munich) statistics have already been mentioned—ninety-two cases, seven deaths. In Schroeder's clinic (Berlin), bleeding is no longer practised, on the ground that better results are obtained since its rejection.

3d. The weight of opinion is opposed to venesection. In this connection, names are to be valued like coins. C. Braun, Gustav Braun, Josef Spaeth, F. Winckel, Schroeder, have expressed themselves in no equivocal terms as opposed to blood-letting.

If blood letting in eclampsia is unphilosophical, if it is opposed by clinical experience and the weight of professional opinion, upon what grounds can this practice be tolerated? If the Fellows must bleed, let them "bleed the woman into her own veins" by the use of veratrum viride.

The experience of one individual in private practice or in our small lying-in hospitals does not count for much. It can have but slight weight in influencing the conduct of others. Yet, as the personal experience of each member has been the basis of his remarks this evening, I feel like adding my own testimony. Up to the present, in about thirty cases of eclampsia, I have not observed a clear indication for venesection. My observation of the cases of others in which bleeding was allowed has failed to convince me of the value of the procedure. Some of these cases were a little remarkable and cannot be fairly cited in this connection, since at the same time with free bleeding the patient's blood was
saturated with chloroform, morphine, chloral, and the bromides. It was a question as to the cause of death, whether it was the Bright's disease, the bleeding, or the artificial toxemia.

In the treatment of eclampsia one item has been neglected. It is necessary to use all precautions against septic infection that so frequently occurs.

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TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, March 8th, 1889.

Dr. A. F. A. King in the Chair.

Dr. J. Ford Thompson read the paper of the evening on EXTRA-UTERINE PREGNANCY.†

Dr. G. W. Johnston, in opening the discussion, said that he thought all would agree with him in stating that since the foundation of the Society no subject had been presented that was of greater importance. Such cases as that reported were not so uncommon as was once supposed; the diagnosis was difficult, and the result often fatal. The choice of operation was also a matter of consideration—there being two principal methods, the one directly curative, the other producing amelioration if not permanent relief. For these reasons the subject was an instructive one to discuss.

The mortality of ovariotomy had been reduced by the dissemination of knowledge resulting from discussions on the subject. The profession had been taught to make an earlier diagnosis and to refrain from tapping. Likewise, by discussing the subject of extra-uterine fætation, the members of the profession at large were educated to look for, recognize the condition, and to actively interfere before such a disaster as rupture of the sac could occur.

The treatment of extra-uterine gestation had received more attention than its diagnosis. All cases should be studied with accuracy in order to place the symptomatology and diagnosis on a firmer basis. Certain typical symptoms have been described as indicative of this condition. Janvrin, of New York, has arranged them as follows: abdominal pain, symptoms of pregnancy, metrorrhagia, a pelvic tumor, discharge of decidual membrane, and changes in the condition and situation of the uterus.

Dr. Johnston had recently met with a case which showed the reverse or negative side of the question, and he desired briefly to refer to it.

The patient was 22 years of age and had been married one year. On the 17th of last January, shortly after the cessation of the monthly period, she was taken ill. She suffered from nausea.

† See original article, page 810.
Transactions of the Obstetrical and

(most marked in the morning), frequent micturition without apparent cause, and colicky abdominal and pelvic pain accompanied by cramps in the left leg. The pain was sudden, violent, and accompanied and followed by prostration. She had two, or perhaps more, of these attacks weekly, and during the intervals was well except for the nausea and bladder irritation.

Two weeks after the cessation of her menses, she had an unusually severe attack of pain with vaginal discharge containing some shreds.

About two weeks later, a still more violent attack, with general symptoms amounting almost to collapse. This occurred at night, and the physician sent for suspected the existence of extra-uterine pregnancy—a suspicion that was strengthened by detecting, on examination, the presence of a pelvic tumor.

Dr. Johnston saw her for the first time the next day, February 7th. The breasts were tender, the areolar signs negative, the vaginal wall was not discolored, the uterus slightly enlarged and anteverted, but the cervix and lower segment of the corpus were neither changed in shape nor softened. On the right side of the uterus and posterior to the broad ligament was a round, exquisitely tender, semi-fluctuating tumor as large as a lemon.

The case was kept under observation from February 7th to February 19th, and during this time there were several attacks of pain. February 19th, the tumor was found to have shifted its position and was in Douglas' cul-de-sac; an enlarged tube was now discovered extending from it outward and to the right. There was no pulsation in the sac.

While the speaker was aware that in this case there were many discrepancies, and while many features were lacking which would aid in the making of an assured diagnosis of ectopic (tubal) pregnancy with threatened rupture of the sac, yet it was mentioned because the symptoms presented were quite as distinctive of the existence of this abnormal condition as in certain cases which had recently been described in this Society and elsewhere, and in many which he had read of. He did not forget, at the same time, that any form of pelvic tumor may occasionally give rise to the most complex and misleading symptoms.

When abdominal section was performed, on February 20th, a tubo-ovarian cyst, retort-shaped and as large as a lemon, was removed.

When this subject was discussed recently at a meeting of the Medical Society, Dr. Johnston stated that he had seen attention called to the fact that it was dangerous practice to use the uterine probe in suspected extra-uterine feta. The passage of the instrument might excite uterine contraction, and this action, extending to the tube, might cause rupture of the sac. In one case reported, uterine contraction came on after sounding, and the decidual membrane was expelled. E. Fraenkel, after a more disastrous experience, warns against such practice of using the sound.

Dr. Thompson's case illustrates several important things. It, among others, shows what might occur after the use of electricity. He thought this case was one of tubal pregnancy which had ruptured into the broad ligament; the fetus had perished, decomposition set in, and the pus burrowed under the peritoneum and found its way into the bladder.

Tait denies that a diagnosis can be made before rupture, and
all of his work has been done at the time of rupture or afterwards.

All that has been learned in connection with treatment before rupture has been accomplished in this country. The application of electricity originated here, and primary laparotomy—i.e., laparotomy before rupture of the sac—has been done three times, and all were by American gynecologists.

Several cases were referred to in the discussion mentioned. Dr. Lamb reported that in the case he examined the tumor was situated high in the abdomen. Dr. Smith failed to discover any tumor by digital examination, although at the post-mortem one was taken out that was as large as an orange.

In reports of cases that have been removed, the tumor was invariably found situated low in the pelvis. If they be sometimes placed high, much of our objective symptomatology falls to the ground.

Dr. Smith.—The difficulties in diagnosticating extra-uterine fention are many. When the tumor is discovered, how can we decide its nature? If, after rupture, the fetus escape from the sac, it will fall into Douglas' pouch. If rupture occur without escape of the fetus, we must look for the tumor on one or the other side of the uterus. In his case, which had been referred to, the abdominal walls were tense and sensitive. He made the examination with the expectation of finding a retroverted and incarcerated pregnant uterus. The symptoms, vomiting, and pain diffused over the abdomen, pointed to such a conclusion.

The symptoms presented by the case of Dr. Johnston, as just reported, were those of membranous dysmenorrhea, until the fact of the presence of a tumor was disclosed.

With the recognition of the tumor, the difficulty in making a diagnosis was increased.

Indeed, the difficulties in making a differential diagnosis in these cases were so great that he thought, in view of the lack of pathognomonic symptoms, it was more creditable to be mistaken in the diagnosis than it was to arrive at a correct opinion through a "lucky guess."

Dr. Busey had very little to add to the subject as presented by Dr. Thompson. He would, however, take exception to the statement made by Dr. Smith that it was more creditable to fail than to make a diagnosis. He thought the diagnosis should be made in at least eighty-five per cent of all cases, although this may be difficult in some and impossible in others. Drs. Thompson and Johnston favor laparotomy, no matter at what period and under what circumstances the diagnosis is made; and they justify it upon the theory that it is complete, less dangerous, and does not subject the woman to the discomforts and ill-results of other methods. Dr. Busey admitted that if rupture had occurred the operation was imperative, and even if the diagnosis is clearly made before rupture the operation is justifiable; but if the diagnosis is uncertain, treatment by electricity is preferable. In Hanks' statistics of twenty cases treated by electricity, there were two deaths; in the eighteen the treatment was satisfactory. In the eighteen cases, there was no history of subsequent discomfort and bad results. If the diagnosis is made at or before the third or perhaps the fourth month, before rupture, the treatment by electricity is safe. There is no positive evidence of death of the mother from the application of electricity for the killing of
the fetus in extra-uterine gestation. The argument in favor of laparotomy based upon the injurious effect of electricity is fallacious. Electricity is preferable in those cases where there is strong presumptive evidence, and yet the diagnosis of extra-uterine gestation is not definitely settled. Laparotomy would not be justifiable unless the diagnosis of ectopic pregnancy was positive.

Dr. Smith has referred to the statement of Reeve that he would not apply electricity to kill the fetus unless he had his laparotomy instruments at hand; but in the same paper Reeve subsequently says that he prefers electricity.

Another objection urged against electricity is that it would cause rupture of the sac, but no such accidents have been reported.

His principal object in rising was to take exception to the dogmatic statement that laparotomy should always be performed.

He was convinced that Dr. Thompson's case was one of ectopic pregnancy; and besides, her husband had stated that she had been passing some long, bony-like things from the bladder for a long time.

Dr. G. W. Johnston remarked that Dr. Smith had said that but for the objective signs of tumor the case which Dr. J. had reported might have been one of membranous dysmenorrhea, but Dr. Johnston believed that the whole history of the case was opposed to any such supposition.

In speaking of the use of electricity in ectopic pregnancy before rupture of the sac, while for many reasons he was inclined to prefer laparotomy, still he could easily imagine circumstances in which the use of electricity might be preferable, just as the most ardent ovariologist sometimes tapped.

The whole question of diagnosis was so obscure that he was inclined to question the validity of many so-called cures from electricity. He could recall one case of ectopic pregnancy cured by electricity which had subsequently proved to be an ovarian tumor and not an ectopic pregnancy at all. Dr. Johnston said that in his own case the uterus was anteflexed and anteverted.

Dr. Busey.—There had been two fatal cases reported after treatment by electricity—one by Janvrin, and the other was at the time suffering from an acute gonorrhea. In Janvrin's case, rupture had taken place before electricity was applied. He asked Dr. Johnston if he had understood him to say that in his case the womb was anteflexed.

Dr. G. W. Johnston meant that the womb was in the normal position of anteversion and flexion, and also of pathological anteposition.

Dr. Busey.—Would not such position, together with the absence of changes in the cervix and size of the womb, exclude ectopic gestation?

Dr. Johnston admitted there were several weak points in his case. He had seen the woman for the first time on Feb. 7th and had operated Feb. 20th. She had menstruated for the last time on Jan. 14th, and at the time of the operation the period was nine days overdue. If the woman had become pregnant immediately after the January period, the tumor should not have been so large.

nor the symptoms of impending rupture so pronounced. If before this time (which was considered possible but not probable), then changes in the uterus, such as have been described by Hegar, would doubtless have been apparent.

The President.—Dr. Thompson had drawn attention to the treatment of the different varieties which seemed very important. The trouble in diagnosticating such conditions is that they are seldom suspected. When the woman first complains of pains, then a careful examination should be made; but this is usually deferred until rupture has taken place. He thought ballottement would be a valuable sign in the earlier months.

Dr. G. W. Johnston.—The tumor in his case was exquisitely sensitive and could hardly be touched.

Dr. Thompson could not accept the argument presented by Dr. Busey in favor of electricity, as he did not believe in its use in such cases. He could not understand why killing the child by electricity was different from other methods, since the subsequent history and course are the same. There is no evidence that electricity is safer than puncture. It would appear as if some operators applied electricity when they had not the courage to puncture or apply lethal drugs. In those cases where such success is claimed for electricity, there is probably no fetus there, as in Mann's case.

Then, if the ectopic pregnancy is positively diagnosticated, which is the proper method of treatment, electricity or laparotomy? The opponents of laparotomy make strange exceptions. If there is any other kind of tumor in the abdominal cavity, they would advise an exploratory incision; but if tubal pregnancy is suspected, "hands off!" He believed that if laparotomy were performed in the early cases, almost all would be cured. This method would relieve the woman of all possible dangers. Electricity may be more convenient, but it is not less dangerous than other minor methods.

As to the difference between tubal and abdominal pregnancy, he would state that an abdominal pregnancy was an obstetrical curiosity, but at least one case proved its possibility. Almost all cases are tubal according to all recent authorities. It is true that the fetus may be found in the abdominal cavity at the post-mortem, but it gets there by rupture. He, however, admitted the possibility of abdominal pregnancy. The surgeon could not determine whether it was interstitial, tubal, or abdominal, but was satisfied to know that it was an extra-uterine fation to induce him to operate. In the interstitial variety, it may be necessary to perform hysterectomy. But the surgeon should proceed if it only amounted to an exploratory incision. The whole subject is clear to the surgeon, who would perform laparotomy for tubal pregnancy if he knew it to be such. In suspected cases he would hesitate; he would get the best advice at hand, and when the tumor was recognized he would operate. When a woman becomes pregnant, she knows it; when the fetus is extra-uterine, she realizes that something is wrong; the pregnancy is irregular in its whole course; there are subjective signs; added to this is the opinion of the physician and surgeon. With all this before him, he would perform laparotomy; and he believed that such a course would be established in a few years.

Dr. Busey.—If Dr. Thompson is so decidedly in favor of lapa-
Transactions of the Obstetrical and

ratomy, why did he not perform it in his own case, in which there was strong presumptive evidence of ectopic pregnancy?

He had antagonized the statements of Drs. Thompson and G. W. Johnston because the statistics show that electricity has been satisfactory in many cases. Laparotomy is not only justifiable but imperative if rupture has taken place; and if the diagnosis is clear before rupture, it should be performed; but that does not prove that electricity is of no value.

Dr. Thompson.—He had not operated in his case because it was a year after conception when he first saw her. He saw none of the signs of pregnancy, and was not sure of the diagnosis until the bones were passed.

On motion, the discussion was closed and the Society adjourned.

Stated Meeting, March 15th, 1889.

Dr. J. Taber Johnson, President, in the chair.

Dr. M. F. Cuthbert read the paper of the evening:

THREE CASES OF DIPHTHERIA IN WHICH PAPOID WAS USED. 1

Dr. G. N. Acker, in opening the discussion, said he knew very little practically about the use of papoid in diphtheria, as he had not had a case in which to test its efficacy since Dr. Bromwell called the attention of this Society to its value in diphtheria. He had, however, had some experience with trypsin; he detailed several cases in which the drug proved beneficial. He saw very few cases of diphtheria; but he did see many cases of follicular tonsillitis—a disease called by some diphtheritic sore throat. In an epidemic at the Children's Hospital in this city, he used trypsin with good results. Some time ago he had three cases of diphtheria in one family, and one, who had had chronic heart disease, died. It was possible for him to call diphtheria by some other name. He was sorry to learn that Dr. Cuthbert did not confirm the views expressed by Dr. Bromwell in his paper.

He thought it very questionable whether the removal of the membrane in diphtheria was necessary. As he did not believe in the membrane being primary, he did not think its removal would affect the course of the disease. He believed it to be a constitutional disease with local manifestations. Of course those who believed it to be primarily local must rely on the removal of the membrane to prevent septic infection. In the septic form of the disease, the removal of the membrane might do some good. In this form papoid was the best remedy, because it possessed solvent and germicidal properties, which Dr. Cuthbert's experience confirms.

As to the nature of diphtheria, which was still a mooted question, he coincided with the opinion that it was constitutional, and he believed in constitutional remedies.

The diagnosis is not always easy; there were the so-called diphtheritic affections, which were either diphtheria or not. Dr. Cuthbert's cases were undoubtedly diphtheria.

He had no criticisms to make on the treatment of the cases, except that he would not have used cold in the first case. As the effect of the papoid was so variable, he was of the opinion that it might not have been pure.

1 See original article, page 818.
As to the subsequent infection from the patch, he thought the doctor was not correct; the patch could not infect. The length of time a patch will remain depends very much upon the constitution of the patient; in the scrofulous, it may remain for a long time. He had seen a case in the Royal Ophthalmic Hospital of London, in which the patch was on the left lower eyelid; it had been removed several times, but as often returned. Some years ago, Dr. A. C. Adams had shown a case to him in which the membrane had remained for several months. From the successful treatment of Dr. Cuthbert's first case, we can entertain great hopes of saving patients.

In the second case, turpentine had been used as a preventive. Its internal administration is also recommended. Sunin considers it very valuable in conjunction with constitutional remedies and stimulants.

Dr. Acker treated diphtheria with milk punches, iron, quinia, and strychnia. He used potassium chlorate as a gargle, but not internally, as he was afraid of its effects on the kidneys. He did not believe in the necessity of mercury; where large doses of calomel were given every hour, he thought the patient got well in spite of the dosage.

Dr. Smith was very sceptical about new remedies for diphtheria, and one is very bold to propose them. He thought the disease produced the membrane, and not the membrane the disease. If the theory be correct that diphtheria is due to a germ, and the membrane the result of systemic infection, then how can we destroy the disease by removing the membrane? He could not see any more reason in such a process than it would be to expect to cure small-pox by removing the scabs. In Dr. C.'s first case, he tried too often to get away the little piece of membrane. He thought that great harm was due in many cases to efforts used to remove the membrane. The violence done by local applications to the child's throat will not be compensated for by the result of any topical remedy. Unless the membrane invades the larynx, he expects his cases to recover. He did not make one application in fifty cases of throat affections. He gave the details of a case on 23d street. The girl had viewed the corpse of a neighbor's child who had died of diphtheria, and had herself contracted it. Dr. S. S. Adams had seen this patient with him, and had said that she would probably have paralysis, which proved true. In this case, he made no applications to the throat, but gave a mouth wash of borax and myrrh. All physicians who use papoid also use constitutional remedies; consequently, he thought it was begging the question to say that papoid cured the disease.

Dr. Prentiss.—Diphtheria had been discussed so often that it was almost threadbare; but there were some points in the paper worthy of discussion. He thought Dr. C. deserved great credit for the presentation and discussion of his cases. He would take exception to the general antiseptic treatment. From such a use of carbolic acid and turpentine not the slightest effect would be produced upon the germ, as it would be too much diluted with air to kill the feeblest germ, and, besides, they smell bad and suggest to others the presence of infectious disease. He had carried antisepsis too far, as there was no necessity for washing the walls and woodwork; the upholstery and bedding should be well aired, but there was no necessity for such wholesale destruction of goods. As to local treatment, he would take exception to the remarks of
Dr. Smith. He believed in local treatment, especially if the case is seen before the membrane has extended to the nose and larynx. He believed that the disease was at first local and secondarily constitutional. There is not much constitutional infection when the disease is confined to the larynx, owing to the scarcity of absorbers; but in the nasopharynx, where the absorbers are plentiful, septic material is rapidly absorbed and constitutional infection is great. If we could prevent the spread of the membrane, we could save more patients than if we allowed it to extend. Some time ago he had reported thirty cases of diphtheria treated consecutively without a death. He had been severely criticised for reporting such happy results, and was accused of having mistaken them for tonsillitis. He had treated diphtheria with the carbolized spray from the steam atomizer, which prevented the spread of the membrane. His subsequent experience had been just as favorable. If he could not use the spray, he applied locally a one-per-cent carbolic-acid solution, and he also gave two grains of calomel every two hours until it operated, and he believed it had a local effect upon the membrane as it passed over it. Where there are glandular enlargements, he used mercurial ointment. He also advised supportive treatment with nourishing food and free stimulation.

The diagnosis is of great importance. Some call almost all cases of sore throat diphtheria. The membrane in diphtheria should be differentiated from the exudation found in follicular tonsillitis. Almost every case of laryngeal diphtheria which he had seen had died. He had seen three successful tracheotomies. He had recently seen a statement that intubation was far more favorable in laryngeal diphtheria than tracheotomy.

Dr. Bromwell congratulated Dr. Cuthbert on a well-written and interesting paper.

In the history of his first case, he thought he passed too lightly over its most important feature—the extension of the disease to the larynx. It is exceedingly important, as being a positive proof, if any were needed, of the diagnosis being correct, aside from its being the most fatal form of diphtheria.

It had been his good fortune to see this case, in consultation, from the time when the voice was almost lost and impending suffocation so marked as to almost destroy all hope except that offered by tracheotomy, to the entire disappearance of the membrane from both pharynx and larynx, and he could not agree with the doctor in thinking papoid a failure. 'Tis very true, the membrane on the pharynx resisted the application of papoid, and everything else except strong tincture of the chloride of iron. Trypsin failed equally with the papoid. Probably the papoid used in the first part of the disease was worthless, or may not the membrane have been rapidly reformed?—as at no time when he saw it was it very thick or dense. When the disease extended to the larynx, papoid in solution was constantly sprayed in both pharynx and larynx. In twenty-four hours from the time it was vigorously pushed, the membrane rapidly liquefied and was expectorated in shreds and pultaceous masses. The papoid now used was a new specimen, not the same used heretofore.

The liquefaction or solution of the laryngeal membrane could have been due to no other medicinal cause or therapeutic action, as the only other local means resorted to was the inhalation of the
steam, generated from a pan of water over a small coal-oil stove, which at no time was more than barely manifested in the room by a slight condensation on the window panes. The changes which took place in the membrane in the larynx he thought too rapid to have been caused by the constitutional treatment.

He would congratulate Dr. Smith on never having experienced a malignant epidemic of diphtheria, otherwise he would not have made so dogmatic an assertion as that, so long as the membrane did not extend to the larynx, there was little if any danger of death. Diphtheria may destroy life by a primary sepsisemia; by a secondary blood poisoning, proportioned to the extent of the membrane in the pharynx and nares—the larynx being in no way involved—or, in some cases, before the appearance of the membrane in either larynx, pharynx, or nares, the patient being knocked down at the very onset of the disease by the virulence of the primary poison, and dying in twenty-four hours from the first symptom of disease. He was surprised to hear Dr. Prentiss take exception to the doctor's antiseptic precautions. Can too much thought or care be given to preventing the spread of contagious diseases, or to destroying all germs of the disease around and about the patient by strict cleanliness and the most improved antiseptic precautions in all pertaining to him, his room, or those who are in constant attendance upon him? In severe or malignant diphtheria, may it not be necessary for the nurses, and also the doctor if he has remained for a long time in the patient's room, his clothing soiled or contaminated by the discharges from the patient's throat or mouth, to change their clothing before going to those not already exposed?

He had known of diphtheria being conveyed to a family remote from the epidemic by a piece of furniture which stood by the bedside of a child who died with malignant diphtheria. Cases of like character have been noted again and again by the most careful and truthful writers. Would it not be far better to mistake a case of tonsillitis for diphtheria, and use the most thorough antiseptic precautions in all pertaining to it, than to treat a case of diphtheria, ever so mild, as a simple non-contagious sore throat, and, by taking no precautions, be responsible for its spread to others?

He saw no objection to its being generally known that a case of infectious or contagious disease was in any house or neighborhood. It would be better to declare it by a flag hung from the windows, as in small-pox, than that it should spread by keeping it secret and permitting persons all unconscious of any danger to visit the house.

Dr. H. L. E. Johnson said that very few advocated the destruction of furniture, as washing and airing it would usually prevent the spread of the contagium. His practice was surely different from that of others, as he had not seen a case of true diphtheria as described in the books. He had, however, seen some cases that looked like it, but they invariably succumbed to applications of the nitrate of silver. He did not believe in the frequency of diphtheria. He had recently seen a case of supposed diphtheria where the attending physician supposed the child to be dying. He found patches in the throat and the constitutional disturbances of a high fever. He advised the application of nitrate of silver, 20 to 30 grains to the ounce of water, and the following day the patches were nearly gone. He had never seen a
case that did not respond to this treatment. He frequently saw sore throats with patches on the mucous membrane from which there was evident purulent absorption, but such cases did not follow the course set down in the books for diphtheria. He had seen four cases in one family in East Washington: father and three children, one a baby four months old, and another member was said to have died of diphtheria. They all had patches in their throats, constitutional disturbance and enlarged glands, and were of the scrofulous diathesis. They all responded promptly to the treatment by nitrate of silver.

He did not understand what was meant by antiseptic precautions. We could not expect a physician to run home and change his clothing every time he saw a suspicious-looking sore throat.

He deprecated the too frequent use of strong solutions of carabolic acid on mucous membranes, as that drug would cause patches resembling the diphtheritic membrane; ulceration of the mucous membrane would take place, purulent material would be absorbed, and there would be the constitutional symptoms of pyemia or septicemia. He was inclined to the belief that such cases are too frequently diagnosticated diphtheria.

Dr. Cook.—What would Dr. Johnson call such patches?

Dr. Johnson.—Would call them patches resembling diphtheria, but not true diphtheria.

Dr. Bromwell.—Such cases are either diphtheria or not diphtheria. He thought any one, doctor or nurse, who wilfully goes from a patient suffering with diphtheria, scarlet fever, or any contagious disease, to others who are not already exposed, without taking every precaution possible, even if it necessitated a bath and complete change of clothing; against conveying the disease to them, should be considered criminal. It does not necessarily follow that every time a doctor has a patient with diphtheria or scarlet fever he must change his clothing before going to his other patients; his stay in the sick-room may have been short, and neither his person nor clothing soiled by contact with the patient, and the distance in the open air sufficient, before he sees another patient who might be susceptible, to render the danger of conveying the disease slight if any.

Dr. H. L. E. Johnson.—The propagation of contagious diseases does not necessarily depend upon going from one patient to another, as in the majority of cases no such transmission can be proved.

Dr. Cuthbert, in closing the discussion, thanked the members for the interest they had taken in the cases reported. He thought carbolic acid a very reliable germicide that, when properly used, seldom did harm. When attending contagious diseases, there are certain precautions that should be taken by physicians and nurses to prevent their spread, and in some cases it may be necessary to change the clothing to insure safety. Antiseptic precautions surely lessen the number of germs, even if they fail to kill all; so by reducing the number of disease-producing bacilli, we also diminish the risks of spreading the contagium. If the turpentine affects the inspired air, it would certainly have a beneficial effect upon the infected membrane.

He believed diphtheria to be primarily a constitutional disease with local manifestations later.

The diagnosis is exceedingly difficult in a great many cases, but
he did not think the disease was as rare as Dr. H. L. E. Johnson would have us believe.

In the first case, the papoid was obtained from three of the most reliable drug houses in the city. He regretted that he could not speak more enthusiastically of papoid in diphtheria.

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TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, March 6th, 1889.

A. L. Galabin, M.D., President, in the Chair.

Specimens.—Mr. Doran exhibited dentigerous bony plates from a dermoid ovarian tumor.

PRESIDENT'S ADDRESS.

The President delivered his inaugural address, in which he spoke of the present condition of obstetrics and gynecology. He first dwelt upon the prosperous state of the Obstetrical Society. During the past four years, its funds had increased by £600. Its Transactions and the work done at its meetings had steadily risen in quality and interest. Of the two branches of medical science with which the Society had to deal, midwifery had for many years advanced the furthest towards scientific perfection. Germany had taken the lead in the great improvements in Cesarean section. Six years ago, the mortality after this operation was as high as from 70 to 90 per cent. Under the new method as practised at Dresden and Leipzig, the entire mortality was but 9 per cent, and, including operations performed outside those cities, the mortality was not higher than 14.8 per cent. Whilst Germany must claim the credit for these triumphs, which rendered craniotomy almost though not entirely needless and unjustifiable, British skill and science had gained much in the field of extra-uterine gestation. Operation at the time of rupture or later was now performed with not discouraging results, promising further improvement. Where the fetus was found free among the intestines, or covered only with a thin amnion, the risk from decomposition of the placenta, if not from hemorrhage, must always remain great. The results of faradization to kill the embryo were questionable. Most satisfactory in the history of midwifery was the application of antiseptics. Once the most miserable hovel was held to be less perilous to the parturient woman than the most palatial lying-in hospital. Now the mortality of childbirth had been reduced in some hospitals to 4 or 5 per 1,000. The President then noted that, at the end of the last century, mortality in lying-in institutions had fallen very low,
but this satisfactory state of things was not maintained, nor restored till very recently. This fact could not be clearly explained. The majority of deaths were still due to puerperal fever, and in relation to that disease there were many obscure points. The President then discussed the character of microbes in relation to the organs concerned in parturition. The most efficacious antiseptic was a 1 in 1,000 solution of bichloride of mercury. A concentrated solution, made with a little glycerin and dilute hydrochloric acid in distilled water, was convenient to carry about and far more reliable than tablets or powders. The President was in favor of the routine use of vaginal douches after labor, but, where there was no skilled nursing, carbolic acid or some antiseptic less dangerous than sublimate was advisable. The President, after dwelling on further questions in relation to puerperal fever and childbed mortality, concluded that the principle of antiseptic midwifery was the prevention of the entrance of virulent germs rather than the destruction of microbes already in the genital tract. The scientific study of gynecology was not so easy as true scientific work in the domain of obstetrics. Many diseases of women were chronic and not fatal, and there were great difficulties in the way of gaining knowledge of the physiology of the uterus and ovaries during sexual life, since the diseases most fatal to women in their prime suppressed or distorted the genital functions. Thus postmortem research was not satisfactory. In the case of local diseases, again, the obstetrician and gynecologist dreaded necropsies, for evident reasons. In abdominal section for ovarian, uterine, and tubal disease, great progress had been made, and the President congratulated the Society upon a reform which had taken place in London, and, he believed, in the provinces also—namely, the removal of restrictions upon the performance of abdominal operations by obstetric physicians. Lastly, the President spoke of diseases which were yet obscure and must be studied pathologically, such as endometritis, chronic metritis, and ovarian pain in relation to oophoritis. The distinction between normal and pathological dilatation or atrophy of the Graafian follicles should be carefully determined. The Fellows of the Society, however, would never fail to walk in the paths of scientific research and clinical observation.

For this inaugural address a vote of thanks was proposed by Dr. Matthews Duncan, seconded by Dr. Graily Hewitt, and carried unanimously.

ON THE RELATION BETWEEN CHLOROSIS AND MENSTRUATION: AN ANALYSIS OF TWO HUNDRED AND THIRTY-TWO CASES.

Dr. W. Stephenson, professor of midwifery, University of Aberdeen, the author of this paper, observed that, in the rapid progress of uterine specialism, chlorosis, in its relation to menstruation, has been too much neglected. This constitutional disease
has been investigated by the physician and the pathologist, but not by the gynecologist. The paper is based on an analysis of 232 cases carefully noted by the author. The cases are divided into two groups: the first, where the illness was primary and occurred before the twenty-third year, comprising 183 cases; and the second, where the attacks were of the nature of relapses after a period of good health: these number 49 cases. Chlorosis is regarded as due to a constitutional state; but it is shown that the diathesis is not necessarily associated with an impairment of the development of the body, and is not, to any marked degree, connected with defective health previous to the onset of the disease.

First is considered the influence of the chlorotic constitution on menstruation before chlorosis sets in. Tables are given which show that the tendency of the chlorotic diathesis is to accelerate the age at which menstruation first appears, and that chlorosis by itself is not a cause of retarded appearance of the catamenia. At the same time, in one-half of the cases, the functional activity is defective, and is chiefly characterized by lengthening and irregularity of the intervals and scantiness in the amount of the flow.

The author's statistics are against the opinion that there is a menorrhagic form of chlorosis. In 96.6 per cent, the effect was to diminish the activity of the function; the remaining fraction were complicated with ovarian irritation. In 58.7 per cent, menstruation became scanty and irregular; and in many cases painful, while in 37.8 per cent there was amenorrhea for various periods.

Chlorosis and age.—A table is given which shows that there are two marked chlorotic periods: the one, of primary attacks, from 14 to 21; the other, of secondary attacks, from 24 to 31. The number of cases of the disease presents a regular curve, beginning at 14 and rising steadily to a maximum between 18 and 19, then rapidly falling, to disappear altogether at 22. The tendency to secondary attacks manifests itself first at 24, rises to a maximum between 26 and 28, to again disappear at 32. That there may be a third period is probable, as two cases are recorded at 39 and 41. This law applies to attacks of the disease with distinct intervals of good health between, as distinguished from the simple relapses, after periods of imperfect convalescence, frequently met with after a primary attack.

The curve of menstrual age, compared with the curve of the onset of chlorosis, does not bear out the opinion that "foremost in etiological importance is the period of the first appearance of the catamenia." The fact of a periodicity in the attacks is also against it. The cause of this periodicity is considered; and the general conclusion arrived at is that imperfect evolution of menstruation, as evidenced by scantiness of the flow and irregularity of the periods, is as regular a feature of chlorosis as the imperfect
evolution of the red corpuscles of the blood; that these constants are not related to each other as cause and effect, but are independent one of the other; at the same time there is a close relationship between them whereby the reproduction and development of the red corpuscles of the blood are governed by, or form part of, the menstrual cycle; and that both are influenced by a greater rhythmic action which determines the time and activity of development, growth, and reproduction.

Dr. John Phillips observed that in chlorosis the average hemoglobin richness per corpuscle was much reduced. In anemia, there was almost total abolition of corpuscle formation, or very little power of hemoglobin absorption. In chlorosis, iron was always beneficial, if not absolutely curative. In anemia, it was harmful, but great improvement often followed the administration of arsenic. He wished that the Society could be informed whether the blood was examined in Dr. Stephenson’s patients.

Dr. Leith Napier strongly supported the opinion that chlorosis depended upon climate to a certain extent. He had found it far more frequent in Aberdeenshire than in the south of Scotland. The rarity of the coincidence of chlorosis and tuberculosis was an important fact. Many theories on chlorosis were very questionable. Sir Andrew Clark’s doctrine as to the retention of feces and production of ptomaines and leucomaines in the blood was not universally applicable. Blaud’s pills were very useful, but Dr. Napier preferred a mixture of iron filings, cream of tartar, and licorice powder in equal parts; as much of the powder as would cover a shilling should be given daily. This prescription had been used by an old Berwickshire surgeon for over fifty years with good results.

Dr. Clapham could not agree with Dr. Stephenson’s opinion that experience showed that there was no menorrhagic form of chlorosis. He had seen that form in a girl aged 18. The hemorrhage was very severe on one occasion, and was only checked by the application of a solution of perchloride of iron to the interior of the uterus.

Mr. Alban Doran remembered a similar case in Dr. Routh’s wards at the Samaritan Hospital. The patient was 16 and had been subject to chlorosis and very scanty menstruation for over a year. Profuse uterine hemorrhage killed her, though local treatment and transfusion were tried. The ovaries contained very few follicles. No special morbid appearances could be detected in the uterus or tubes; the vessels of the uterine walls showed none of the changes observed by Dr. Percy Kidd in hemophilia.

Dr. Rutherford wondered whether a family history of chlorosis was present in any of Dr. Stephenson’s patients. He had seen menorrhagia in two sisters suffering from chlorosis. He noted that chlorosis occurred at or about the “dodging time.” He believed that the disease was primarily neurotic.

Dr. Routh stated that his case, already noted, was an instance of true menorrhagic chlorosis. He had maintained, many years ago at the Medical Society, that a blood poison was present in chlorosis with amenorrhrea. The skin assumed the color seen in many blood-poisoning diseases. The poison might be some ptomaine formed in the body. Fecal absorption, which Dr. Routh had shown to be fecal fermentation, might explain the
phenomena perfectly. It produced the chlorotic complexion, sometimes in males. Free purgation often cured chlorosis, as Hamilton had shown long ago. A neurotic dyspepsia was seen in certain cases; this complication Dr. Routh had cured by Apostoli's practice of applying the continuous current to the pneumogastrics in the neck. Then the patients could digest their food. Arsenic and iron and free purgation completed the cure.

Dr. Playfair had seen severe cases of menorrhagic chlorosis. He would have liked to hear more about the causation of chlorosis, and he doubted that any chlorotic diathesis existed. Dr. Stephenson's theory of climatic influences was reasonable; he noted the frequency of chlorosis in Aberdeen, and Dr. Playfair had been struck by the number of cases which had come to him from Australia. Overwork should have been named as a certain cause. Dr. Playfair found that chlorosis was common in high-class girls' schools, generally beginning after menstruation had been established. The disease often attacked girls sent to school in Germany, probably through insufficient dietary. Profound impairment of nutrition was probably the basis and essence of the disease; in many cases there was a neurotic element. The nutrition must be improved. Blaud's pills, so strongly recommended by Dr. Stephenson, represented an admirable way of administering iron, but they were no panacea. Dr. Playfair had never failed to cure cases of chlorosis of the worst type by systematic rest, massage, and over-feeding.

Dr. Graily Hewitt believed that the fundamental condition in cases of chlorosis was imperfect and inadequate nutrition, not uncommon even in the higher grades of society. Hence the main object in treatment was to restore nutritional activity. As medicines, mild aperients and iron were required.

Dr. T. C. Hayes traced the symptoms of chlorosis to blood changes, the corpuscles being affected and iron deficient. Iron taken in sufficiently large doses for a certain time cured the disease. He had never seen menorrhagia with true chlorosis. Married women might be anemic, but he had never known true chlorosis to set in for the first time after marriage.

Dr. Dyce Brown traced chlorosis to some functional disorder of nerve centres. Malnutrition was not constant; some chlorotic patients were fat. Iron did harm when the temperature was the least above normal. In such cases, arsenic, especially the iodide, was of value. Pulsatilla, no new remedy, was also of great benefit.

Dr. Heywood Smith referred to Dr. Stephenson's argument by analogy from the chlorophyl of plants to the hemoglobin of the human subject, as illustrating the blanching in cases of chlorosis. He drew attention to the blanching of the majority of old people who had passed the age of sexual activity.

Dr. Horrocks insisted on distinguishing chlorosis, so generally associated with amenorrhea, from the anemia caused by loss of blood, where the menses were not always diminished. The nervous system played an important part in chlorosis. The cessation of menses was a good thing for the patient as long as she remained weak and pale from the disease itself. Iron was good; Dr. Horrocks preferred the powdered saccharated carbonate.

Dr. Champneys reported

A CASE OF CESAREAN SECTION FOR CONTRACTED PELVIS.

The patient was a secundipara, having had a child in 1882, delivered by induction of premature labor and craniotomy at seven months. She came under notice on this occasion at the end of the seventh month.

She was a dwarf, with well-developed trunk and stunted but otherwise well-formed extremities, without any signs or history of rickets. Her height, forty-four and three-quarter inches; her pelvis of the generally contracted flat variety, with a conj. vera of an inch and three-quarters.

Cesarean section (after Sanger) was performed about three and a half hours after the beginning of labor at term, the os uteri being about the size of a florin. There was no bleeding. The operation lasted eighty minutes—forty minutes to the beginning of the sutures, forty minutes to the end of the operation. The sutures were deep silver and superficial silk.

The ovaries were not removed, but the patient was sterilized by tying (and cutting through) both tubes with kangaroo tendon. The child is alive and healthy.

There was no shock after the operation. The temperature (with the exception of slight reaction on the second and third days) resembled a normal lying-in. Recovery was uninterrupted, and the patient is now quite well.

Dr. Playfair said that great credit was due to Dr. Sanger for impressing the importance of his antiseptic principle and for his brilliant results. Nevertheless the custom of speaking of "Sanger’s operation" as something new and different from Cesarean section was not justifiable. It was not likely that the operation in question would entirely replace craniotomy, for it required much surgical experience and aptitude; besides, antiseptics would lessen the mortality of craniotomy also. Like Dr. Champneys, he believed that strong chromic gut was quite safe and suitable for the uterine sutures. The safety of leaving unabsorbable metallic sutures in the uterine tissues appeared questionable. Dr. Playfair agreed with Dr. Champneys as to the question of sterilization. The original proceeding undertaken by Dr. Champneys might involve certain dangers. Removal of the
appendages would have scarcely added to the danger of the operation.

Dr. Herman noticed that Dr. Champneys did not turn the uterus out of the abdominal cavity in this case, and spoke as though his course in this respect was an "omission." Dr. Herman thought that Dr. Champneys had done well; he had preserved the uterus from needless exposure, and had succeeded in keeping foreign matter out of the peritoneum and in applying the sutures without turning out the uterus. Dr. Herman did not see any object in leaving the ovaries, when the tubes had been tied in order to sterilize the patient. The ovaries were rendered useless and might become the seat of disease. Removal of the ovaries, on the other hand, appeared to involve no bad effects beyond sterilization, which in this case was desired on reasonable grounds.

Dr. W. S. A. Griffith maintained that silver wire was the proper material for the uterine sutures. One of the fundamental principles of the improved method of operating was the use of a suture which would remain safe in spite of the frequent contractions and relaxation of the uterine wall. In one fatal case where catgut sutures were used, it was found after death that only the lower two of eighteen sutures remained tied. The remainder were all untied and the uterine wall gaping widely.

Dr. Lewers had witnessed the operation on the case in question. He believed that the sutures were of ordinary carbolized gut and not of chromic gut.

Dr. Griffith replied that they were chromic gut sutures, but believed that it made little difference of which form of catgut the sutures were made.

Dr. Horrocks believed that the time was coming when a patient would prefer Sanger's operation as less dangerous to herself than craniotomy performed on the child. The number of patients for whom craniotomy was found to be necessary was very small, and it must be remembered that the operation was often performed several times on the same woman. He agreed with Dr. Herman about leaving the uterus in the abdomen. When lifted outside, the organ became anteverted, and so the placental site would more probably be wounded. The elastic ligature was most important; he asked for precise details as to its application. Dr. Horrocks thought that Dr. Champneys' proceeding for sterilizing the patient was preferable to removal of the ovaries. He asked at what point the tubes were ligatured, and dwelt upon some physiological subjects of interest in connection with the question.

Dr. J. Phillips said that he had operated in a case where a large fibroid in the posterior wall had become impacted in the pelvis. Eventration of the uterus and the use of the elastic ligature were impossible, yet control of hemorrhage and insertion of the stitches were easy. The patient died from causes apart from the questions under consideration. Two sizes of silk were used for the sutures, and the uterine incision was found perfectly united after death. Dr. Phillips did not favor chromic catgut, and preferred silk to silver sutures.

Dr. Braxton Hicks remarked that this case did not decide the point as regarded the mother, namely, which of the two operations was the better. In the first labor, craniotomy was successful. Of course the life of the child would be an important point in guiding our decision. In this case, with a conjugate of one and three-quarter inches, there would be considerable difficulty

Obstetrical Society of London. 881
in delivery unless in experienced hands, and Cesarean section would be much easier and probably safer.

Mr. Alban Doran did not understand the precise manner in which the tubes were ligatured. Meddling with the broad ligament, especially in cases of pregnancy and uterine tumor, was dangerous. Complete removal of the appendages would probably be safer than transfixion of the broad ligament and ligature of the tube.

Dr. Heywood Smith dwelt upon the subject of sterilization. He thought that removal of the appendages would have increased the danger of the case. He asked why Porro's operation was not performed: it was less dangerous than Cesarean section and could be finished sooner. When a patient had a highly deformed pelvis, so as to be in great danger during childbirth, the fetus being sure to die, some method of sterilization was needed, whether by Porro's or some other method. Such patients neglected advice, and, when craniotomy was performed, repeatedly allowed pregnancy to go to full term. If a patient of this kind came under observation after the third month, it would be best to recommend her to go to the full time, then Porro's operation should be performed. Thus two lives would probably be saved and further mischief prevented.

Dr. Cullingworth spoke in favor of silk ligatures for the uterine wound. In one case, where the patient died from renal complications twenty-nine hours after operation, the edges of the wound were found in perfect apposition. Dr. Cullingworth had more confidence in silk than in catgut, on account of its greater durability and the less liability of slipping. He thought it best to lift the uteruses out of the abdomen. He asked Dr. Champneys if it were essentially advisable to cut very slowly when making the abdominal incision. He thought that Dr. Champneys would be able to give a very good reason for preferring, in this instance, Sänger's operation to Porro's.

The President had been led to believe, from the results obtained at Dresden and Leipzig, that Sänger's operation was always to be preferred, unless the uterus was already damaged by prolonged labor, and that it might establish its claims to preference even in that case. Some statistics recently supplied to him by Dr. Harris, of Philadelphia, however, show that the record of the last four years gives a mortality of nineteen per cent for the Porro-Cesarean operation, and of over twenty-six per cent for the Sänger-Cesarean section. The Sänger operation at Dresden and Leipzig had, on the other hand, proved highly successful. Porro's operation had answered better in this country. The President would still prefer Sänger's operation as a primary choice, but he thought that these figures showed that under certain circumstances much might be said for the other alternative.

Dr. Champneys then replied. He stoutly maintained that to Sänger belonged the credit of having modified Cesarean section so as to make it a justifiable operation. Statistics proved this fact. Dr. Champneys used deep silver sutures, because silver had been recommended and used by the most successful operators. When he operated, he was not aware that Dr. Leopold had changed the deep sutures from silver to chromic gut, which proved perfectly safe. Still, silver appeared unobjectionable, and if it prevented subsequent pregnancy, as Leopold believed, that was an advantage. Chromic and carbolic gut behaved quite
differently. For the deep sutures, the choice lay between silver and chromic gut; for the superficial, between chromic gut and silk. Dr. Champneys, in tying the tube, chose a spot where it was small and round, before it began to expand towards the ampulla. An aneurism needle could readily be passed close to the tube, without including any vessel or visible structure in the broad ligament. He did not agree with Dr. Herman that removal of the ovaries was a matter of indifference; nor with Mr. Doran that ligaturing the tubes was probably more dangerous than removal of the appendages. Very grave results, mental and otherwise, sometimes followed oophorectomy. Dr. Champneys thought that it would be quite time to deprecate ligature of the tubes when harm followed. Unless something untoward occurred to this patient, he would do the same on any future occasion. He thought that turning the uterus out of the abdomen was a distinct improvement. The organ could be kept warm by towels, and the practice made it easy to prevent fluids from entering the peritoneal cavity. It also facilitated the insertion of the sutures. The upper abdominal sutures should be closed as soon as the uterus is turned out, and there is plenty of room to replace it after it is emptied. He had not refused to procure abortion in this case, but the patient did not present herself till the seventh month. The choice, in a pelvis of this size, seemed to be between early abortion and Cesarean section. The elastic ligature was a piece of rubber about the size of the little finger. It was tied in a single knot, and the ends clipped by a pressure forceps. Dr. Champneys removed all sponges before closing the uterus. Hemorrhage was almost absent till rupture of the membranes relieved the pressure. It did not occur when the elastic ligature was removed. The uterus was neither hard nor small; it felt as it was a few hours after normal delivery, when that organ was large and not hard, yet no hemorrhage occurred. Dr. Champneys had not been deliberately slow in making the uterine incision, but cut slowly, so that he might see best what he was dividing. When the uterus was completely opened, he proceeded quickly. As to moral responsibility of the patient, the obstetrician gives advice; his duty also was to get the patient out of her difficulty. If she did not take advice about not becoming pregnant again, we had nothing to do with appraising her moral responsibility. The statistics of Cesarean section and Porro's operation were at present in a very confusing condition. He would prefer, in the meanwhile, to compare series performed by a competent operator, but he might say that the statistics in Cesarean section in good hands were so good that he thought that Porro's operation should be restricted to damaged uteri.
REVIEWS.


This series of four volumes, which together are intended to minutely cover the entire practice of medicine and surgery as peculiar to, or modified by, the conditions incidental to infancy, childhood, puberty, and adolescence, is arranged as a systematic treatise forming "a digest both of the labors of the past and the attainments of the present," and is written on a plan much in favor to-day, each chapter being contributed by one distinguished for his practical and scientific attainments in the particular division of the subject treated.

The opening volume, as a whole, is excellent, and contains much of individuality and freshness. Following the introductory essay by Abram Jacobi come two on anatomy and physiology—subjects most important as bases from which pathological changes and symptomatology must be studied before they can be either comprehended or rightly estimated. The first, by Geo. McClellan, contains much that is the result of original observation, is concise, and particularly valuable in regional anatomy. It is freely illustrated by photographic plates which, in general, are excellent, though a few sacrifice clearness to absolute accuracy. The second, by Angel Money, is a fair résumé, and shows, as the author states, "that the subject of the physiology of infancy is a comparatively unworked field, but a most interesting one."

Diagnosis is rightly considered of sufficient importance to merit a special chapter to itself, which James Finlayson has made one of the most useful and readable in the volume. Other general subjects treated are: The Influence of Race and Nationality upon Disease, by J. Wellington Byers; Outlines of Practical Bacteriology, by E. O. Shakespeare; Maternal Impressions, by Wm. C. Dabney; Diseases of the Fetus, by Barton Cook Hirst; The Care of the Child at and immediately after Birth, in Health and Disease, by R. A. F. Penrose; Injuries of the New-born, by Theophilus Parvin; Infant Feeding, by T. M. Rotch; Wet-Nurses, by Wm. H. Parish; Diet after Weaning, by Samuel S. Adams; Nursing of Sick Children, by Miss Catherine Wood; Nursery Hygiene, by L. M. Yale; Dentition, by John Dornin; and Puberty, by More Maddon.


The work is one which must necessarily remain a standard for consultation and reference for a long time to come.
ABSTRACTS.


The recognition of grave forms of diphtheria, when fully developed, is usually easy; but then the recognition is often too late. It is the earlier stages and milder forms of the disease which need to be intelligently discriminated from certain affections which often bear an astonishingly close resemblance to them; and this discrimination, its essential principle being understood, is in most cases not difficult.

The first essential in this diagnosis is complete and accurate observation. As our patients are mostly children, the laryngoscopic and rhinoscopic mirrors are, for obvious reasons, not usually very available, nor are they generally necessary, though in some cases, especially in older patients, they may give valuable information.

The patient should be placed for examination directly in front of a window or a good artificial light—if a young child, on the lap of the nurse. Thorough inspection of the throat is now in most cases easy. But some young children will oppose the operation. When this disposition is manifested, the nurse should secure the patient's hands; while some other person stands behind him and holds his head between the palms of the hands. Then, if the lips and teeth are compressed, the tongue depressor (a smooth spoon handle is one of the best) should not be thrust forcibly in, but held in readiness awaiting the opportunity which the child will soon give. It is then slipped deftly between the teeth and well back into the mouth along the dorsum of the tongue, when gentle pressure downwards will cause the child to open his mouth and give a view of the throat. The conformation of the mouth is so different in different persons that it is now and then a matter of some diffi-
culty to obtain a satisfactory view of the throat, especially if the patient resists or is inclined to vomit. In such cases, some perseverance may be necessary. Repeated attempts, with a little interval between them, are less likely to excite vomiting than retaining the tongue depressor in position too long at one time. The very act of "gagging" will throw the tonsils forward, giving a view of their posterior surface.

The throat having been thus thoroughly inspected, perhaps only redness and more or less swelling are observed. Do these denote the catarrhal or ante-membranous stage of diphtheria, or some other inflammation of the throat? The probability of its being the former will be favored by the fact of previous exposure to contagion or to the presence of an epidemic, and by certain characteristics of the throat inflammation, especially a certain intensity and a somewhat abrupt limitation to a particular location, as one tonsil, or one faucial pillar, or a portion of the soft palate; but it is only occasionally that this evidence is very significant. Other forms of throat inflammation, as the follicular, are often one-sided, and I have seen the aspect of the throat in diphtheria, a few hours before the appearance of membrane, in no way distinguishable from that of many ordinary sore throats. Hence a positive diagnosis of diphtheria can but rarely be made at this stage.

The one pathognomonic sign of diphtheria is diphtheritic false membrane. The existence of diphtheria without a diphteria is indeed asserted. The reasons for regarding its occurrence as improbable have been elsewhere given. The distinctive characteristics of diphtheritic false membrane have elsewhere been stated. This membrane in the fauces and pharynx is never altogether superficial to the mucous membrane. Though the depth to which it involves the epithelial layers varies greatly in different cases, yet even in its most superficial form it is so intimately connected with the subjacent tissues that if it be scraped or torn away a raw and bleeding surface is exposed.

In non-diphtheritic pharyngitis, we often see whitish patches of pultaceous follicular secretion, or smearings of glairy, tenacious mucus, or ulcers of various kinds covered over with, or surrounded to some little distance by, yellowish or grayish mucous pus, or, in some cases, with a superficial and fragile membranous formation which is undoubtedly a true fibrinous or croupous exudate. These forms of ulcerative pharyngitis have been variously designated as "ulcero-membranous angina" by Da Costa; "common membranous sore throat" and "herpetic sore throat" by J. Solis-Cohen; "confluent herpes of the throat" by Morell Mackenzie; and "drain-throat," a form of septic sore throat attended with ulceration, by S. Solis-Cohen.

The appearances presented by these affections may, at the first view, be very deceptive to the inexperienced eye; but their true character may be readily ascertained by brushing them with a swab, or, still better, throwing a stream of water upon them from a syringe. In aphthous or herpetic angina, the little vesicles and the resulting ulcers are readily recognized when clearly exposed to view by this method, and the fibrinous pellicles just referred to have entirely vanished from the scene, or just enough fragments of them remain to make clearly evident their fragile, superficial, and non-diphtheritic character.

But by far the most frequent occasion of error in diagnosis is the very common affection known as acute follicular or lacunal tonsillitis. The tonsils are irregularly ovoid bodies, the surface of which is penetrated by a varying number of slit-like or circular orifices of a system of internal cavities,
Abstracts.

887

crypts, or lacunæ, from which numerous follicles branch out into the substance of the gland. " The crypts of largest size and greatest depth are, as a rule, found in the middle part of the tonsil. The crypts are generally filled, more or less, with a yellowish substance composed of fat molecules, loosened pavement epithelium, lymph corpuscles, small molecular granules, and cholesterin crystals, which probably proceed from retained and decomposed epithelial matter, and perhaps, now and then, from the bursting of follicles whose cells have increased by proliferation and have undergone a retrograde metamorphosis and fatty degeneration" (Delavan).

Acute follicular tonsillitis occurs sporadically in connection with ordinary catarrhal pharyngitis, endemically from various local insanitary conditions, and epidemically. In this last form it is undoubtedly a specific disease, and is probably in some degree contagious. I have been led to this last conclusion from having so often seen it go through families of children, successive cases occurring at intervals of one, two, or three days, just as occurs with diphtheria or scarlatina.

Follicular tonsillitis is not a milder grade of diphtheria, but is a totally distinct disease. Diphtheria, it is true, may supervene upon follicular tonsillitis as upon other catarrhal affections, but then it is usually, at least, only after the latter has run its course. As this requires only a few days, it is not strange that the two affections have been supposed by some to be related.

Follicular tonsillitis differs from diphtheria in not causing constitutional poisoning, either septic or specific. It is not accompanied with nephritis (except as any febrile catarrhal affection may occasionally be), it is not followed by paralysis, and I have never known of a fatal case.

The onset of follicular tonsillitis is undistinguishable from that of diphtheria in the amount of febrile and nervous disturbance which accompanies it. Its second stage, that of follicular exudation on the inflamed tonsil, may closely resemble diphtheria. Its third stage, which occurs after two or three days, is that of the disappearance of this exudation, exposing in its place peculiar appearances of erosion or excavation in the surface of the tonsil. In the second stage, or that of exudation, we may often see whitish or yellowish points projecting, or liquid oozing from one or more of the lacunal orifices of the tonsils. The diagnosis is then easily made, for these appearances are pathognomonic of follicular tonsillitis. It is made easy in other cases by the evidently soft and pultaceous character of the deposit on the tonsil, and by its lying loosely and superficially on its surface, from which it is easily removed by rubbing it with a swab.

There is a smaller proportion of cases, but yet very numerous in the aggregate, in which the diagnosis is much more difficult. These cases are thus described by Dr. G. M. Lefferts: " Have you not often seen in these cases of follicular tonsillitis an aggregation of the grayish-white pultaceous masses which block up the mouths of the diseased and occluded crypts to such an extent that not only is an apparent but a real pseudo-membrane formed—one thickened by the products of cellular growth and decay (fungi and bacteria), and rendered coherent by the inflammatory hyperplasia? A membrane which may occupy only a part of the tonsillar surface appears here and there in patches, or, more rarely, covers it entirely. The appearance is not an unusual one, and the attendant constitutional disturbance well known."

Dr. Lefferts in this connection refers also to the infectious catarrhal ton
that the exudation is limited to the tonsil or tonsils, for that is often true in
diphtheria; nor by its short duration, for that is equalled by very mild forms
of diphtheria; nor by the severity or mildness of the accompanying febrile
disturbance, for that varies greatly in both affections; nor by the test of in-
fection or non-infection, for catarrhal tonsillitis is sometimes infectious; nor
even by the presence or absence of albuminuria, for reasons which have been
elsewhere stated.

We are told by various writers that the diagnosis of follicular tonsillitis
may be made by scraping the membraniform investment from the tonsil, or
forcing out the cheesy contents of the crypts by pressure, or thrusting a probe
into the distended lacunal orifices, which methods in the case of a suffering
and struggling child are unnecessarily heroic.

In the paper from which I have just quoted, I called attention to two points
or methods in this diagnosis, of which experience has taught me the valuable
practical utility, and the added experience of subsequent years has only
tended to confirm my estimate of that utility.

The first of these points is the location of the membraniform patches in
follicular tonsillitis. These patches, being usually formed wholly or in part
by exudation from the lacunal openings, or being at least the result of an in-
flammation which involves the follicular portion of the tonsil, are in relation
to those openings, and are consequently located on the more central portion
of the convexity of the tonsil which is the site of the principal and most
numerous openings (see Fig. 1).

On the other hand, a patch of true diphtheritic membrane, when it is
limited to the tonsil, is not usually seen on that portion of its surface only, but
occupies a more lateral or marginal position, the true diagnostic point being
the relation, or want of relation, to the lacune of the tonsil. Hence if, on the
first inspection of the throat, a membranous patch is seen covering the central
portion of the convexity of one or both tonsils, and is limited to the tonsil, it
may be regarded as very probable that the affection is follicular tonsillitis
rather than diphtheria; while a membranous patch, however small and
slight in appearance, which is seen on the marginal portion of the tonsillar
surface, and is evidently not in relation to the lacunal orifices as its source,
should be carefully investigated.

I have seen true diphtheritic membrane in its formative stage extending in
slight streaks or spots across the tonsil. In those instances, it could easily be
seen that the streaks or spots did not emerge from the lacunal openings, and
bore no relation to them, which is, in reality, the essential point to be ascer-
tained.

The second method is syringing the throat with warm salt water. In fol-
icular tonsillitis, this will cleanse the throat of much deceptive material.
The membraniform covering of the tonsils will be, in part at least, broken up
and washed away, showing its friable and superficial character, and its rela-
tion to the distended lacunal orifices. A prompt and accurate diagnosis is
thus made practicable by a simple and readily available method in many
cases in which it would otherwise be difficult or impossible.

Like most other "ready methods" in diagnosis, those which I have now
mentioned require to be used with due reserve and discretion, especially by
inexperienced physicians and at times when diphtheria is epidemic. It can-
not be denied that there are cases in which the most competent and experi-
enced physician must reserve his positive diagnosis for a day or two, and
rare instances in which some doubt must remain, even after the most care-
ful consideration of all the attendant circumstances. Yet the number of cases in which these tests, when applied \textit{with accurate observation}, will fail, is surprisingly small.


He believes that ultra-enthusiasm has led to frequent failure in the use of this remedy, but says there should be no question as to its importance as a therapeutic agent in gynecological practice when such men as Apostoli, the Keiths, Engelmann, and other competent observers who have had experience in its application, report most satisfactory results. His apparatus consists of a Gaiffe faradic battery; the bipolar uterine and vaginal excitor of Apostoli; a fifty-cell galvanic battery, the cells of which are of the Law telephone pattern; a portable Waite & Bartlett galvanic battery; Gaiffe's galvanometer; Massey's current controller; the abdominal electrodes of Apostoli and of Martin; platinum sounds, steel needles, and metal electrodes to be used with absorbent cotton.

He advises the use of the current of the Edison circuit, direct from the dynamo, when it can be had, thereby avoiding the annoyances and inconveniences of a battery. Portable batteries have proved very disappointing for the administration of high intensities, and his work has been confined principally to office practice. Great stress is laid on the importance of the application of the faradic current in subinvolution of the uterus, and every woman who has had an abortion or is confined at full term is placed on ergot; and should there be incomplete involution at the expiration of six weeks, he begins at once the use of the faradic current, with the bipolar intra-uterine excitor of Apostoli, and repeats the application every second or third day until the organ has returned to its normal size, "which can always be counted on with mathematical certainty." He does not recommend the use of the current immediately after every abortion or delivery, as practised by Apostoli, since this treatment could not or would not be afforded except by a very small class, unless it were certain that the uterus would not return to its proper size.

The currents of quantity and tension have been used with very satisfactory results as indicated by Apostoli, but he has begun to use the current of tension not only for pain, but to stimulate relaxed and enfeebled muscle fibre. The current of tension is borne better by the patient, and he has been unable to recognize the superior results of the current of quantity on muscle. In displacements of the uterus, he supports the organ with wool tampons, and does not object to any form of pessary, properly fitted, in connection with the treatment by electricity. He believes proper support of the organ, combined with the proper application of electricity, to be the most rational treatment for this condition.

When the uterus is enlarged, not from subinvolution but \textit{hyperplasia}, the continuous current is indicated. All cases of chronic endometritis are amenable to galvanism—the positive current when there is much leucorrhea or profuse menstruation, and the negative in other cases. From seventy-five to one hundred and fifty milliamperes are used twice weekly, for five minutes at a time. The sound is usually introduced through a bivalve speculum, and the handle allowed to rest on a large wad of absorbent cotton, which prevents injury to the endometrium. This is preferred because it permits of more thorough antisepsis, and allows the physician to rest his hand during the operation. He does not say that electricity will do away entirely with
Abstracts.

such surgical procedures as shortening the round ligaments—Alexander's operation—or attaching the cornua of the organ to the abdominal wall, or the narrowing of the vagina by the many methods at present in vogue, but insists that many cases can be relieved by this method of treatment which would otherwise be condemned to the knife.

Chronic inflammatory exudations in the pelvis should be punctured once or twice a week, and from one hundred to one hundred and fifty milliamperes of the negative current used. The faradic current is an admirable remedy for the so-called chronic pelvic inflammations—thickening of one or both broad ligaments from the collection of blood in the distended veins when the uterus is displaced (Hardon). Of course the lacerated cervix which usually causes this condition should be repaired before the administration of electricity is begun.

The local application of the faradic current is capable of relieving many cases of amenorrhea due to atrophy of the uterus. In menorrhagia, due to relaxation of muscle, to engorgement, when patient menstruates from eight to nine days, after a few applications the menstrual periods would only last from four to five days. The positive galvanic current is the remedy indicated for hemorrhage due to disease of the endometrium, and is the current usually indicated for hemorrhage. Women often become pregnant soon after being treated by electricity, and it is unquestionably a valuable remedy for sterility due to nervous causes, so ably described by Dr. Campbell.

In neuralgic dysmenorrhea, and dysmenorrhea in women of a hysterical temperament—whom the slightest excitement or worry will cause to suffer greatly—in those cases where there is no apparent pathological lesion, he has succeeded, as with no other remedy, by the application of the current of tension or by the mild positive galvanic current. The negative current is indicated when the pain is due to mechanical causes in the cervical canal, and when there are inflammatory deposits around the ovaries, etc.

He reports a case in which he had removed the appendages when there were inflammatory deposits around them, and regretted that he had not used galvanism, as the operation had not benefited the patient. He does not think that galvanism can take the place of the removal of the ovaries and tubes, but says each has its special field, and should electricity fail, there is no harm done, and the operation can still be resorted to.

While he has had no experience with electricity in extra-uterine pregnancy, from a study of the actions of the agent and the results in the hands of others he thinks there can be no doubt but that it should be used in the early stages of this condition; and should there be a mistake in diagnosis there could be no harm done, as this is the remedy for the pathological processes which are liable to be mistaken for extra-uterine gestation. When the pregnancy has lasted for more than three months, and when it can be positively diagnosed, it is a question in his mind whether laparotomy should not be resorted to at once.

He said the subject which had concerned the profession most in connection with the use of electricity was the treatment of fibroid tumors, and that the results of the treatment in the hands of Apostoli, the Keiths, Engelmann, Lapthorn Smith, and others, had demonstrated that this is the treatment for fibroid tumors which "offer probabilities of healthy retrograde metamorphosis" (Engelmann).
Abstracts.

He had followed Apostoli’s instructions in this class of neoplasms, and believed that the majority of cases could be symptomatically cured. Certainly, Apostoli’s treatment should be tried before resorting to hysterectomy.

3. Frankel, Ernst: On Enucleation of Submucous or Intraperiarterial Myomata through the Abdominal Cavity (Martin’s Operation) (Arch. f. Gynäk., XXXIII., 3).—After reviewing the history and evolution of the operative treatment for these growths, the author narrates two cases of his own: The first was an unmarried woman of 28 years, who had for a long time been a sufferer from menorrhagia, while at the same time she noted an increase in the size of the abdomen. She had been confined to her bed for eleven weeks prior to coming under F.’s care, suffering from violent abdominal and spinal pains and vesical and rectal tenesmus. During the last three weeks a copious, excessively offensive discharge from the vagina had occurred. On admission, she was anemic and feeble, had no fever, and emitted an insufferable stench. The abdomen was uniformly enlarged by a somewhat movable hard tumor of smooth surface, of ovoidal shape, slightly tapering below. The vagina was very narrow and rigid, and completely occluded by an immovable, doughy, edematous tumor. It was not possible to introduce more than two fingers into the vagina, even under profound anesthesia. The bladder was very much compressed by the tumor, as was also the rectum. The diagnosis was made of a fibro-myoma, intramural and partially submucous, projecting wedged into the vagina. There could be no thought of removing the growth through the vagina, because of its size and its unbroken attachment to the uterine walls, as well as the decidedly narrow vagina. Martin’s operation was therefore performed. The abdomen was opened and the uterus brought forward as in Cesarean section; the abdominal cavity was protected against the entrance of blood and detritus by applying sponges and cloths all about the uterus. A median incision was then made into the uterus without the previous application of an elastic ligature (which was rendered impracticable from the nature of the growth); the incision reached from the fundus to the lower third of the uterus. Copious hemorrhage followed. The incision was enlarged up to the free border of the tumor, and the enucleation of the latter and compression of the uterine wound by an assistant accomplished as rapidly as possible. After removal of the mass, it was seen that the wall of the uterus, particularly at the fundus and anterior portion, was extremely thin, and contained very few muscular fibres. Foul-smelling detritus flowed from the uterus at the first incision. The loss of blood was very great, and the patient came near dying on the table. The uterine cavity was scraped, irrigated with a five-per-cent solution of carbolic acid, and swabbed with a 1:1,000 sublimate solution. The redundant flaps of the capsule were removed with the scissors; the uterine cavity was dusted with iodoform, and a yard of fifty-per-cent iodoform gauze, folded into an elongated pad about three inches in width, was so placed that it completely filled the cavity and projected into the cervix. The cervix, like the uterus, rapidly contracted after removal of the growth. The bleeding was now moderate. Ten deep silken sutures were inserted into the uterus, the peritoneum being carefully brought together with juniper gut; then followed cleansing of the uterine surface with carbolized solution, the application of iodoform to the line of suture, reposition of the uterus, rapid cleansing of the peritoneal cavity, closure of the abdominal wound, and dressing. The operation lasted three-quarters of an hour. Union was com-
Plicated by various disturbances, but still progressed so well that the patient left her bed on the seventeenth day, and was discharged five weeks after operation, in excellent condition excepting a small uterus-abdominal fistula, which gradually closed. Menstruation recurred four and one-half months after the operation. The growth removed was a fibro-myoma, with predominating myomatous elements, and measured sixteen centimetres in its long and sixteen centimetres in its greatest transverse diameter.

The second patient was 40 years old, a nullipara, married thirteen years. She had suffered since her eighteenth year from copious and prolonged menstruation, which during the last seven years had amounted to severe menorrhagia; for four years she had noted the development of an abdominal tumor; she was greatly anemic, and had anemic murmurs at all the cardiac orifices and at the aorta, with edema of the lower extremities and the abdomen. The tumor was of about the size of a child's head, reaching two inches above the umbilicus, and was slightly movable. The diagnosis then made was that of an interstitial myoma of the uterus, the operative treatment of which was not as yet considered necessary. Injections of liquor ferri sesquichlorati and tincture of iodine reduced the bleeding considerably, and liquor ferri albuminatii was given to overcome the hydremia and edema, with very good results. Nine months later she was again seen. She was in a miserable condition, disseminating a very foul odor, was very pale, had anasarca and edema of the abdomen, and high fever. She stated that, about fourteen days previously, a foul-smelling, copious sanguineo-purulent discharge had taken place, accompanied by labor-like pains; later, noticing that "a piece of meat" protruded from the vagina, she withdrew the object, and repeated the procedure on the reappearance of the pieces; hemorrhage, rigors, and great pain always followed. Upon examination, F. made the diagnosis of submucoid intraparietal myoma, which partially protruded and was wedged into the vagina, attached to the posterior wall and fundus of the uterus, and which was in a state of disintegration. Operation was then consented to and performed. Upon opening the abdomen, it was found impossible to bring the uterus up out of the cavity; the widely diffused lower segment of the growth was so tightly wedged in the small pelvis as to preclude access to either the cervix or the broad ligaments. The abdomen was transversely incised, and the intestines pushed upward, when it was possible to move the mass sufficiently forward to permit its being surrounded with sponges and cloths. A rubber ligature could not be applied. On incising the uterus in the middle line, a moderate quantity of bleeding took place, but a stream of foul fluid escaped, and it is not impossible that some of it gained access to the peritoneal cavity. The growth was removed with great caution in three or four sections; that in the small pelvis required great exertion. The toilet of the uterus and abdominal cavity was the same as in the preceding case, but the cut surface of the uterus was united to the abdominal wound by numerous silk sutures, in the endeavor to prevent infection of the abdominal cavity, and to obtain extraperitoneal adhesion of the uterus with the development of a utero-abdominal fistula, as in the first case. The fever continued after the operation, reaching 40° C., delirium set in, and the patient died on the second day with all the symptoms of acute septicemia.

The author then discusses at great length the considerations which guide to the diagnosis and operative treatment of myomata which have begun to disintegrate.

L. R.
4. Lomer: Weight of the Individual Organs of the New-born
(Zeitsch. f. Gebarts. u. Gynäk., XVI., 1.)—The bodies of 50 children, of which number 35 were still-born, the remainder surviving for short periods, were utilized in the observations of L.; only healthy children who perished during labor were examined; all doubtful cases were excluded. The causes of death in those who came into the world alive were trauma received during birth, general debility, and atrophy. The organs weighed were transferred from the bodies directly to the scales; the longitudinal measurements of the children were not determined, the author considering this an unreliable factor. The organs weighed were the heart, kidneys, thyroid and thymus glands, suprarenal capsules, spleen, liver, and lungs. The results are given in tabulated form, and show some remarkable variations and discrepancies in the weight of individual organs. Some of these variations may be ascribed to inherent predisposition of the parts; others, however, exceed the average so greatly as to excite suspicions of the existence of monstrosities, as, for instance, a child weighing 4,450 gm. had a heart of 24 gm.; child 4,150 gm., heart 40.9 gm.; child 2,250 gm., thymus 9.2 gm.; child 2,350 gm., thymus 28.5 gm., etc. Again, three children differing in weight by 1,000 gm. possessed hearts of practically equal weight.

The kidneys develop progressively with the fetus, and keep pace with the aggregate bodily weight; they functionate during intra-uterine life. Is their activity merely nominal, or is it as productive as in extra-uterine life? The author approaches this much-disputed question from an anatomical standpoint. Given an organ which has previously performed but a minimum amount of its physiological work, and which is suddenly called upon to elaborate the total urinary excretions, we would of necessity have to find some anatomical evidences of the stupendous revolution of functional activity which has occurred; the kidneys of children that have lived extra-uterine would appear hypertrophied in comparison with the languidly functioning organs of the still-born. Should no such differences appear, we would have proof that the kidneys of the fetus are in full functionating activity. L. failed to discover any difference in weight or in microscopical appearance.

The heart likewise undergoes a progressive increase in weight synchronous with the development of the fetus, but does not keep pace with the aggregate increase. It does not appear to hypertrophy with the onset of extra-uterine existence.

The growth of the lungs is progressive with the fetal development in the earlier months, but diminishes as gestation approaches termination. The lungs of children that have breathed are heavier than the lungs of still-born.

The thyroid gland grows with the body, but somewhat slower, and shrinks after birth. The size of the gland is independent of that of any other organ, and may be relatively large or small.

The thymus grows more rapidly than the body in intra-uterine life, but decreases rapidly after birth.

The suprarenal capsules keep up to the general growth, but likewise suffer great diminution after birth.

The liver, while maintaining equable relationship during fetal existence and for some time during extra-uterine life, later on slightly decreases.

The spleen of still-born children shows decided variations, as from \( \frac{4}{10} \) to \( \frac{6}{10} \) of the weight of the body. The increase in the spleen and liver is of practical importance, syphilitic diseases causing both of them to enlarge; in a number of L.'s cases, however, such infection could be excluded.
Abstracts.

The author offers the following rules: (1) The thymus gland grows comparatively more and with greater rapidity in intra-uterine life: its increase exceeds the increase of the body; (2) the kidneys, suprarenal capsules, and liver keep pace in their growth with the increase in the bodily weight; (3) the heart, the thyroid gland, and particularly the lungs, lag somewhat in the general increase; (4) the spleen is so frequently the subject of such great variations that no rules can be applied to it; (5) the heart and kidneys do not appear to undergo any change in weight at birth; (6) the thyroid and thymus glands and suprarenal capsules, on the contrary, diminish in weight post partum, particularly the two last; this loss only becomes apparent from the second to the fifth day, and is not compensated by appropriate increase in other viscera; the liver also appears to lose in weight in obedience to the change in circulatory relations after birth; (7) the lungs become heavier with the beginning of their functional activity; (8) as the kidneys do not hypertrophy immediately after birth, it is possible that they are in full activity in fetal life; and (9) as the liver and spleen present great individual variations in bulk, care should be taken not to confound them with the enlarged organs which accompany syphilitic infection.

L. R.

5. Runge, G.: The Russian Female Pelvis in its Anthropological Aspect (Zeitsch. f. Geburts. u. Gynäk., XVI., 1).—This is a painstaking effort to elucidate the differences which exist in the pelves of the adult woman and the new-born female, in its bearings on anthropological studies, and presents the labors of the author in detail, together with the researches of his contemporaries.

L. R.

6. Leopold, C. G.: Ventral Fixation of the Retroflexed Uterus (Sammlung klinischer Vorträge, No. 333).—Nine cases coming under the personal care of L. are described, with their clinical histories and the technique of the operations performed. The indication for surgical interference in three cases was pure retroflexion, the uterus being in a state of chronic inflammatory swelling and sensitiveness; in one, the retroflexion was caused by a sub-serous myoma of the fundus, and in five the ovaries and tubes were bi- or unilaterally inflamed and matted to the uterus. All cases were followed by uniformly good results. L. does not decry non-surgical treatment for this affection; on the contrary, it is good practice to make use of the various local and systemic methods, particularly the patient and judicious use of pessaries and the more lately introduced massage, which every practitioner resorts to, often with good success. Those possessing the time and means, and whose surroundings and mode of life will insure a painstaking course of treatment, will undoubtedly be able to defer the operation. But among the less fortunate, those in whom daily tasks, manifold cares, and lack of means interfere with their proper regimen will find a boon in this operation, which cures in a short time, and cures permanently.

L.'s cases show that the following may be taken as indications for the performance of the operation: (1) First of all, in performing oophorectomy or salpingotomy for the relief of chronic oophoritis or salpingitis, whether the retroflexed uterus is bound down by adhesions or not; (2) in the removal of growths which have induced permanent retroflexion (subserous myomata of the uterus, tumors of the ovaries), and (3) in pure retroflexion of the mobile and non-adherent uterus, when the patient's condition is to be attributed solely to this, and when all other methods for giving relief have had a
thorough trial. In the first class of cases, we have to do mainly with infections endometritis, salpingitis, oophoritis, and perimetritis of gonorrheal or puerperal origin; here the removal of both ovaries is imperatively called for, even though the uterine adnexa of one side are as yet in a state of commencing inflammatory swelling and perimetritic adhesions. In the second and third classes, the ovaries and tubes will generally be found healthy. Here we should be guided by conservatism. The technique of the operation must be simple to inspire confidence; the most important preliminary is the removal of the adhesions, which, though generally sparse and thin, are now and then very numerous and hard. The finer ones may be separated by gentle manipulation with the index finger; very little bleeding follows; should hemorrhage take place and persist, a pad of iodoform gauze may be used as a compress and left in place until the completion of the operation. The adhesions are separated with great difficulty when tough and numerous, as they may implicate the rectum, the ureters, and the bladder. The hand of the operator should remain close to the fundus; the uterus should be caught between the index and middle fingers of the left hand, while an assistant pushes forwards and upwards the anterior wall of the rectum and the vagina; the fingers then press downwards along the uterus and gradually separate the strands; the harder and thicker ones will have to be separated by the handle of the knife, the scissors, or the knife itself; hemorrhage is generally slight. The fixation is accomplished by the insertion of three deeply ramifying abdominal sutures, which include the body of the uterus and draw it close to the inner border of the peritoneal wound. The first penetrates from ½ to 1 cm. from the tubal orifice; the second, between it and the third, ⅔ to 1 cm. from it, transversely through the upper muscular layer at a depth of 2 to 3 mm., and draws, after the lower angle of the wound is closed, the body toward the abdominal wall. Care should be taken to prevent prolapse of intestines or mesentery above or below. The upper angle of the wound is then closed. The three fixation sutures must be made long to facilitate withdrawal, which may be done in from fourteen to eighteen days, the abdominal sutures as early as the eighth or twelfth day. By this time, the body of the uterus is firmly united to the abdominal wall. The patient must be kept in bed for three weeks, and should refrain from any exertion for at least three months, and see that bladder and rectum are regularly emptied. To facilitate adhesions, L. had formerly lightly scraped the serous covering of the uterus with a knife. It was not done in these cases. The author concludes with the declaration that this operation leaves us still far removed from the ideal.

L. R.

7. Temesváry, R., and Bäcker, J.: Studies in the Lying-in State (Arch. f. Gyn., XXXIII., 3).—An elaborate series of observations, pertaining to (1) Relations of Temperature; (2) Relations of the Pulse; (3) The Involution of the Uterus; (4) The Lacteal Secretion; (5) The Healthy Puerperium. In many instances the authors' results agree with those of other observers; in others, decided diversions are apparent. The figures and deductions are in general practical, if only to re-emphasize previously known facts which are frequently overlooked.

L. R.
I venture to affirm that there is no considerable muscle in the body whose form and functions are more difficult to understand than those of the levator ani, and about which such nebulous impressions prevail. The drawings of it are complicated, the impressions of its strength and importance are conflicting, and the knowledge concerning it is fragmentary and not readily accessible. For these reasons a study of it, with new drawings, tests, and cases, seems worth while.

One commonly meets with the idea that the levator is a kind of muscular funnel tapering to the anus and serving to pull it directly upward after defecation. This is absolutely untrue. The muscle rather resembles a horseshoe—a sling attached to the pubes in front, its sweep reaching horizontally backward to circle like a collar the rectum and vagina. Its action in

1 Part of the Prize Essay, for 1887, of the Association of the Alumni of Long Island College Hospital.
woman is to drag the lower ends of the vagina and rectum forward level to the symphysis.

I quote from Luschka the following description: "The levator ani might be called the diaphragm of the pelvis." In many or most women "it is so thin as to be nearly membranous. Its flat bundles are loosely bound together, and even open up here and there into fissures filled with connective tissue and fat." This peculiarity of structure serves a good purpose under the extreme distention of delivery.

Since the sides of the true pelvis in woman are of lesser

![Fig. 1.—The levator ani: appearance when the pelvic outlet is looked at squarely. The cut ends projecting inward are those fibres which run into the recto-vaginal septum.](image)

height than in man, her pelvis being shallower, so the perpendicular height of her levator is less, while her horizontal measurements are greater. The muscle lifts less than in man.

**Origin.**—"The origin of the levator is partly from the bones and partly from the fascia of the true pelvis. The bony origin is principally from the horizontal ramus of the pubes. In front, the halves do not meet; each starts half an inch (1.25 cm.) from the centre of the symphysis. The insertion is of the width of two fingers, located one and one-quarter inches (3.5 cm.) below the upper border of the ramus." (The belly of fibres which starts here sweeps backward nearly horizontally about the
Levator Ani Muscle.

rectum. In some women, it is doubly as thick as the rest of the levator, and has edges or margins thicker than the centre of the

ribbon. It is this portion that is especially liable to become hypertrophied and give rise to severe vaginismus, dyspareunia,

and dystocia.) "The smaller part, a quarter of an inch wide, arises from the inner side of the ischial spine, and lies imme-
diately in front of the origin of the coccygens. Between these two points the origin is from fascia, and generally from a curved line of a fine crescentic shape, of which the lowest point is situated two inches (5½ cm.) beneath the ilio-pectineal line. This curved line of origin is intimately connected with the tissue of the pelvic fascia, so that the muscular fibres begin as tendinous bands, which ray out into the fascia and give much strength. Both on the upper and lower surface of the levator this fibrous tissue flattens and spreads out. An absolute connection, however, between the muscle and the so-called arcus tendinens of the pelvic fascia ['white line'] is by no means constant. A band-like thickening of the fascia, or a ledge-like fold projecting into the cavity of the pelvis, is not the usual form of this attachment. This arch sometimes lies over the upper surface, and can be separated from it without injury to the fibres."

Course.—"The course of the muscle is as follows: Stretching downward and backward, its fleshy bundles divide into two very unequal parts, of which one travels to the front of the
rectum, the other to its lateral and posterior aspects. The fibres which take their origin from the pubic bone course down alongside (neben) the vagina, and are united to it by strong connective-tissue attachments, but nowhere on its walls do they terminate." Henle says that the longitudinal muscular fibres of the vagina on its lateral aspects are inserted into the levator

by interweaving with its bundles, just as we find to be the case about the rectum. These relations between the lateral walls of the vagina and the edges of the levator are worthy of note.

"That part of the levator which descends to the anterior aspect of the rectum is a flat bundle only a few lines wide, bow-
shaped, convex below, its lowest point about half an inch (1.5 cm.) above the anal opening. This bundle comes from the outer side of the pubic origin and crosses over the larger belly to arrive at its destination. In women, this portion of the levator is reduced to a minimum and collected together in the recto-vaginal septum." See photographs, Figs. 1 to 4. Palpa-

![Diagram of pelvic floor](https://www.example.com/diagram.png)

Fig. 6.—The levator as seen in sagittal section one inch distant from mesial line—showing how it upholds the uterus and the slope of the pelvic floor. (Redrawn from Hart.)

...tion by recto-vaginal touch confirms the last statement, although an occasional exception is met with.

"That section of the muscle which reaches back of the rectum is divided into three parts. The posterior, smallest portion is fastened by a tendon to the front of the fourth coccygeal vertebra. The middle portion becomes aponeurotic and joins with its fellow in the point of the coccyx. This is about 1 cm. long
and the same in width. The anterior and largest bundle unites with the opposite bundle behind the rectum, with no tendon intermediate. The strips nearer the coccyx are flatter and thinner, and divide up in that portion of the pelvic floor which slants downward from the coccyx to the rectum. They hug the concavity of the end-curve of the rectum and support it from below. The lower-lying bundles are stronger and more crowded together. They form a sling-like fillet, half a centi-

Fig. 7.—The levator as seen in a section which takes the direction of its lower fibres.

metre wide, coursing about the end of the rectum. This band is intimately connected with the sphincter ani, and forms that portion acting particularly on the rectum. Some one of the constituents of this group crosses usually with one of those bundles of the sphincter ani which are inserted into the dorsal surface of the coccyx (see Fig. 5), while a set of fibres from the sphincter is continuous with the sling-like division of the levator ani.” The union between the levator and the rectal walls is very close, although none of the fibres of the muscle terminate
in the walls. The same close interweaving with the longitudinal muscular fibres is found that was noticed in connection with the vagina. (Heule.)

It is curious to observe how grossly misrepresented this muscle has been. Gray, Savage, Weisse, Lusk, and others depict the fibres running plump into the sides of the vagina and rectum. And even Hart's fine atlas (Plate XIX.) shows the anus opening on the tip of the coccyx and stealing space from the levator. I would draw attention to Figures 7, 8, 9, and 10. Fig. 6 shows the levator cut partly across and partly parallel to its course. How it acts as a sling to the uterus and bladder is here well demonstrated. Fig. 8 is a section cut transversely in the axis of the uterus. The saw follows the direction of the posterior fibres of our muscle, which from this different point of view is again asserted to be a sling for the uterus and posterior vaginal wall. You will note that the axis of pressure from above will be nearly in a direction which will drive the uterus down into the hollow of the muscle.

Fig. 7 is a section which follows the direction of the lower or horizontal belly. It clearly proves that if the fibres shown contract, the rectum and vagina will be dragged forward.
against the posterior surface of the symphysis. Also, that this is the strongest part of the muscle, being here, as other frozen sections and dissections show, a quarter of an inch or more in thickness (6–8 mm.).

The nomenclature of Savage requires mention. It seems to me to confuse the subject by its subdivisions. He labelled the lower fibres, which have bony attachment in front only, the pubo-coccygeus (they do not touch the coccyx). The bundles originating from the tendinous arch which spans the obturator foramen he named the obturato-coccygens, and the portion having its origin from the ischial spine the ischio-coccygeus.

Coccygeus.—This muscle arises from the ischial spine and spreads its fibres like a fan from the tip of the coccyx up the side of the lower two sacral vertebrae, filling the space left open behind the levator. (See Fig. 5.)

Bulbo-Cavernosus.—As the coccygeus completes the muscular diaphragm behind the levator, so a thin, weak muscle helps to close the opening between the shanks of the horse-shoe—the bulbo-cavernosus, sometimes misnamed the sphincter vaginae or constrictor cunni. Each muscle starts posteriorly from the perineal fascia at a point nearly midway between the sphincter ani and the ischia, while a small bundle only is connected with the sphincter itself (Luschka). In front, the convergent ends separate into three portions: one passes to the under surface of the corpus cavernosum of the clitoris, a second goes to the posterior surface of the bulb, and a third blends with the mucous membrane between the clitoris and the urethral orifice (Henle). The action of this muscle consists chiefly in compressing the veins of the clitoris, and in thus enhancing the turgidity of the erectile apparatus. It is in no sense a sphincter muscle, though by pressing the turgid bulbs inward it may narrow the vestibule of the vagina (Lusk). I believe it cannot be found by the touch unless greatly hypertrophied.

Fascia.—No muscle, however strong, could withstand prolonged strain, unless it was supported by fascial "sheets" or interlaced with fibrous tissue.

Looking at the pelvic outlet of the cadaver in the lithotomy position, we find that it is lozenge-shaped, made up of triangles; the apex of the anterior one being at the symphysis, while the apex of the other is at the sacro-coccygeal joint. In the ante-
rior triangle we find the vaginal and urethral openings; in the posterior, the anus. The common base line is a line drawn just in front of the tuberosities. The deep transverse perineal muscles cross nearly in front of this line. At its centre lies the "tendinous centre" of the perineum. The anterior triangle holds between the rami on either side five layers of fascia.

The *levator fascia* is formed in this way (Fig. 9): The iliac fascia splits into three parts. One layer covers the inner surface of the obturator internus; a second very dense fascial sheet lines the levator ani on its under surface, and is known as the levator fascia; the third division covers the levator on its inner or upper surface, and is the recto-vesical fascia. Ranney's diagram is the clearest exposition of this of which I am aware. It is purely diagrammatic as far as the vagina goes.

**THE LEVATOR ANI MUSCLE IN ACTION.**

We have seen that the thickest portion of the levator ani was that which formed its lower edge. The ends are fast to the
back of the pubes; the sweep of it incloses rectum and vagina; its direction is nearly horizontal. This strip, two fingers wide, is not unlike two fingers to the touch where it passes the side wall of the vagina in its backward course. That is to say, the edges of this thick ribbon seem rounded and more prominent than its centre. This is moderately well shown in Figs. 4 and 5. By asking the patient to draw up strongly, it can be readily felt, even after labor. In some cases this portion is greatly hypertrophied, forming a veritable constricting ring a short distance from the hymen. Contraction of this ring draws the anus and the posterior wall of the vagina toward the symphysis. It is capable of so firmly closing the lower end of the vagina that coitus and digital examination are impossible. In
exaggerated cases, spasm beginning during the orgasm has held
the male organ so firmly as to prevent its withdrawal for some
time—in some instances until chloroform has relaxed it. Hil-
debrandt, Budin, Hendrichsen, Davis, and others have recorded
such conditions. The bibliography contains the references.

I was led by an experiment of Budin's to see whether that
contraction, which is so readily appreciated by the finger, could

![Diagram showing impressions on wax phallic models made by the levator muscle.](image)

Figs. 11, 12, 13, 14, 15.—Impressions on the wax phallic made by the levator when the
muscle contracts (½ size). The marks of the cervix and symphysis are shown, as well as
the bending produced, and the different impression made on a small or large mould.
(Fig. 14 is from Budin.)

not be graphically shown. A cylinder of modelling wax, soft-
ened by warmth and kneading, with a cord solidly fastened
into it, is greased and slipped into the relaxed vagina of a pa-
tient in the dorsal decubitus. She is asked to contract firmly.
An impression of the muscle is printed in the wax. While
Levator Ani Muscle.

this worked well for strong levators, I was obliged to devise a more sensitive mould for weaker muscles. On a brass cylinder I carefully moulded an evenly laid outer wax cylinder. Together they are introduced into the vagina. The metal tube is withdrawn, and we have a wax Ferguson's speculum in situ. Looking down into this, we can watch the process of indentation. After relaxation and gentle withdrawal, the cylinder is at once hardened in cold water and traced.

The results are fairly constant.

1. The distance from the vaginal orifice (hymen) to the inner edge of the levator averages somewhat less than half an inch (1.2 cm.).

2. The double band is always sharply defined.

3. The larger the cylinder, and consequently the more the levator is stretched, the closer together the strong edges of the horizontal belly are found.

4. The upper end of the phallus is crowded hard against the cervix.

5. Contraction causes the axis to change fifteen to twenty degrees, i.e., the vaginal outlet is quiescent; the upper end rises toward the brim 15° to 20°.

I have selected the case from which these tracings are taken as a type. (See Figs. 11-15.) No. 1 was straight when introduced, and met no resistance, but the contraction of the muscle has curved it by pressing it hard against the subpubic arch and the cervix uteri. This bears out the assertion that the anterior concavity of the vaginal slit, as seen in mesial sagittal section, is due to the levator. It confirms Sims' prediction concerning a vaginal constrictor that presses the glans penis firmly against the os tincæ. This levator is of unusual strength.

The fifth outline is traced from the lower surface of the first. The levator is of unequal power on the two sides—a not uncommon occurrence. The left side has a deep indentation near the vaginal outlet, but the force brought to bear from the right a little further up the canal has curved the whole cylinder.

The fourth outline is Budin's, from one of the cases I quote later. It differs from almost all of mine in that his levator groove is shallow (though the phallus is large) and in that the subpubic groove is deep. His outline is handsome—too regu-
lar, I fear, to be accepted as accurate, since my less architectural results are quite constant.

The assertion that the most characteristic action of the levator is to draw the anus and perineal body forward toward the symphysis cannot be more forcibly illustrated than by putting together two tracings of the pelvic floor (Fig. 16). These tracings have been fitted to a pelvis in section. The upper one belongs to the following case:

CASE I.—Mrs. M., 26, rather corpulent. First child two years ago: precipitate labor. Torn to mucous membrane of rectum

(Fig. 16). Only a few fibres of sphincter left; slight cystocele; no rectocele. Pelvic floor projection a little less than an inch. Anal groove unusually deep. Pucker about anus an inch in length posteriorly. Levator thick and strong. Horizontal belly hypertrophied and in a state of tonic contraction.

Notice on the tracing the length of the ano-coecygeal portion. It is as long as Schultz's and Foster's maximum. Observe also how scant the room between posterior commissure and
subpubic ligament is. The normal distance is $1\frac{1}{2}$ inches. This is a little less, though an inch of perineal base is gone. The compensation is perfect.

Case II.—Mrs. I., 53. Menstruating regularly, in fair health, active, and by no means flabby; mother of six children. First labor was "terrible," with forceps. Feeling of entire loss of power here ever since. Prolapsus uteri and cystocele, half of uterus out at times. Perineal base five-eighths of an inch, three-quarters of an inch thick. No rectocele, for the perineal "wedge" perfectly supports the anterior rectal wall. A little way up vagina, on left side of rectum, a sulcus, floored with a scar and deep enough to bed the finger in, runs up to the ischial spine. Levator powerless.
See how the posterior commissure in the lower tracing has fallen three inches away from the pubes. The presence or absence of prolapse in these cases depends entirely on the condition of the levator. Injury to the muscle will not account for all prolapse. But it does account for most "sagging." Such states are classified in my paper in the July number ("The Vagina as a Hernial Canal") as due to dropping backward of the opening in the outer layer of the pelvic floor until it coincides with the opening in the inner layer, and so permits a hernia.

![Diagram of sagging pelvic floor with rectocele when the levator has been injured.](Skene.)

In some patients, the whole muscle is more equally hypertrophied, and the posterior or upper fibres lift the posterior vaginal wall at right angles to its axis. Then the ring-like constriction during contraction is replaced by the sensation of a broad, tense band.

*The Strength of the Levator Ani.*—In order to obtain a somewhat definite conception of the strength of this muscle, the following rough test was tried. Traction backward was made on the levator, and the amount of resistance which the patient could exert was measured by a dynamometer. This
instrument was made for me by Tiemann and tested pound by pound during the process of graduation of the scale; for I had found that all the ordinary oval hand dynamometers of elliptical shape, including those made by Collin, of Paris, were entirely untrustworthy, not pretending to represent their "face value" when put to the test. With the patient in Sims' position, a very small and short-bladed Sims speculum is hooked along the posterior vaginal wall in such a way as not to touch the coccyx nor approach it. The dynamometer is attached and traction made in a line running from the symphysis through the pelvic floor just above the anus. At first, the pull is just sufficient to bring the blade steadily and firmly against the posterior vaginal wall. The scale will then show one to two pounds' tension while the pelvic floor muscles are thoroughly relaxed. Now we request our patient to contract and resist the pull. After subtracting the first reading, this second figure indicates the number of pounds' traction this individual levator can make. The average is ten pounds, running up in certain cases to twenty-seven pounds.

To afford a comparison, I might add that the hooked forefinger can pull about twenty pounds. A nurse holding a Sims speculum is unable to stand such traction long.

The classes of patients in whom I have so far noted a particularly large size and vigorous action of the levator are:

1. Muscular women, e.g., young domestics.
2. Erotic women.
3. Women with wide pelves.
4. Patients suffering from painful lesions about vulva and anus, such as fissures.

The levator ani becomes hypertrophied during pregnancy.

The argument that the thinness of the muscle is proof that it cannot resist the advancing head with any considerable degree of force is fallacious. The levator measures from $\frac{1}{2}$ to $\frac{3}{8}$ of an inch in thickness ($0.3$ to $1$ cm) (Luschka, Hart's sections, dissections). The uterine walls at term "measure not more than $\frac{1}{2}$ cm. in thickness," says Schroeder. This is $\frac{3}{16}$ of an inch, while the diaphragm is not over $\frac{3}{16}$ inch. The levator weighs one-fourth as much as the diaphragm, and half as much as the external oblique. Comparisons of relative transverse sections are even more favorable to the levator. The strain that the diaphragm and abdominal muscles tolerate is exerted at
right angles to the muscular fibres. The diaphragm is interwoven with strong fibrous tissue, but the levator is backed by "dense and strong" fascia on its under surface. If the diaphragm stands the strain, the levator may suffer part of it without injury.

Having thus met Joulin's statement regarding the structural weakness of the muscle, we willingly admit that by "paralysis from compression, paralysis by lengthening, and physiological relaxation" it ordinarily yields readily to the presenting part, although it is driven against the muscle in the direction which the levator is best qualified to resist.

Obstruction to Labor due to the Levator.—Every one has ob-
served simple cases of this kind. The head, well rotated and well flexed, is driven through the pelvic canal at a normal rate until it reaches the pelvic floor. Then it pushes again and again against a pelvic floor which seems elastic enough but will not yield. After matters have come to a standstill for such a length of time that mother or child is suffering, when we apply the forceps we are astonished at the very small amount of force required to start the head, then the blades may be removed and Nature will finish the delivery. The explanation seems to be that during a pain all the muscles about the pelvis (and abdomen) contract. The levator shortens as well as the others, and with force sufficient to effectively bar any advance. Just enough traction to tire and overdistend the resisting fibres does away with the obstruction.

In a far more aggravated form obstruction to labor from contraction of the levator ani is met with. Budin speaks of cases of contracture where permanent thickening and shortening of the muscle have taken place. Serious obstruction will result, and craniotomy may be necessary. These cases must be very rare. Of the first variety he has collected five well-marked cases, and I am able to add an interesting case of my own:

**Case I.**—Revillout: Muscular young woman. Suffered from extreme vaginismus. Finally impregnation was brought about by connection while she slept. A ring or bridle was found up the vagina which prevented even the application of forceps. It was supposed to be a cicatrical band and therefore incised. Autopsy showed it must have been levator.

**Case II.**—Benicke: Strong young woman. Vaginismus excessive and lasting ten years. Head on pelvic floor; chloroform; forceps unsuccessful; craniotomy necessary. This was a contracture of many years' standing from which muscular changes had ensued.

**Case III.**—Budin: Patient 20 years of age; vaginismus, strong levator; three days in labor; finally chloroform and forceps.

**Case IV.**—Budin: Most intense vaginismus, strong levator. Whenever she partially came out from under the anesthetic, the contraction returned. Forceps delivery.

**Case V.**—Budin: Strong levator. Breech had to be delivered by traction, ergot, and expressio fetus, as the levator would not let it out. The head was imprisoned twenty minutes. Forceps; great resistance. Perineum intact, but levator torn. It did not unite (no suturing), and entire loss of power resulted.
Case VI.—Dickinson: F. E. S., healthy and muscular, 23 years old, intelligent American. Considerable bleeding with first attempt at connection. Very constant and marked vaginismus from time of marriage to birth of child, but not excessive as in some of the other cases. Twelve hours in dilatation stage, L. S. A. Pains very vigorous. Muscular pelvic floor. When the breech began to distend the pelvic floor, no further advance was possible, and a delay of two hours occurred. The fetal heart became inaudible, the vagina somewhat hot and dry. Traction over groin used without avail. With much difficulty the hand was slipped past a ring just above the vaginal orifice to bring down a foot. The traction was greater than I have ever had to use in a breech delivery. After sweeping down the arms, the head was held firmly in the grip of a strong circular obstruction, so that delivery of it by the Smellie-Weit method (Mauriceau) had to be abandoned for the forceps. Cord not pulsating and child making respiratory efforts; obliged to apply considerable force; suddenly the obstacle gave way and the head slipped out.

Having no adequate assistance and a patient in whom chloroform produced excitement, yet being unwilling to dispense with voluntary efforts on the part of the mother, she was at no time anesthetized to the surgical degree. We readily see, what was not clear to me at that time, that complete relaxation of the levator would have been brought about by pushing the chloroform further. As it was, the fleshy perineal body was torn well down to the sphincter and the laceration ran up the posterior vaginal wall some distance. The vaginal sutures did not go deep; three external sutures were introduced.

Two and a half years later the condition is as follows: No sagging of pelvic floor. Perineal base one-half an inch long (1.3 cm.). Levator very strong. It has been torn on its inner edge between the rectum and the ischial spine one-quarter to one-half inch deep. The gap, the scar, and the difference between the right and left horizontal bellies are all distinctly felt. Traction force of levator, fourteen pounds.

From the fact that this badly crippled levator can exert much more force than the ordinary levator, we may judge of its vigor before injury.

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THE NON-RETENTION OF URINE IN YOUNG GIRLS AND WOMEN.  

By

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The title of this article would seem to indicate the non-retention of urine in females from no matter what cause, but such is not my intention. I wish to include under its head those cases of obstinate non-retention due to other causes than cystitis and growths in the bladder.

Of all the diseases that flesh is heir to, I do not suppose there is any one more disagreeable, harder to cure, or more demoralizing to the patient than a disease of the bladder which calls for a constant evacuation of that organ.

1 Read before the Obstetrical Society of New York, March 5th. See p. 959.
The particular object of this paper is to call attention to a class of disease which seems to be especially predominant in young girls from infancy up to maturity and, also, in some women of maturer years, when it is perhaps a sequel to cystitis; or the result of a not over-watchful mother in infancy, when force of habit becomes second nature; or follows a paralysis of the sphincter muscle. The disease I allude to is the gradual contraction of the walls of the bladder, due to a hypertrophy of the muscular coat, and the consequent reduction of its holding capacity to little or nothing. It has been my fortune to see quite a number of these cases, both in children and adults, and I have had the satisfaction of curing all but two of my cases completely, and that with no other aid than forcible dilatation by warm water. I do not propose to enter into the pathology of these cases, but simply give short histories, with the result which followed.

Nearly eight years ago, a young lady, daughter of a large banker in a neighboring State, was brought to me for my opinion as to her case. This was her history: She was then 17 years of age; her menstruation was perfectly regular and free from pain, and her general health was all that could be desired. Her only complaint was that she had never been able to hold her water for more than fifteen minutes during the day; and at night, when asleep, she had no control whatever of the bladder, the water constantly running out as fast as secreted. She had never known what it was not to wake up in the morning and find herself drenched with urine since she was two years old. She had to lead a rather secluded life; never could accept invitations to spend the night with her friends, as most young ladies do; and if she and her mother ever made a trip to this city or elsewhere, they always had to go armed with rubber sheets and their own cotton sheets to put on the hotel beds, so that this poor girl’s infirmity should not be found out by the chambermaids. Can anything more distressing be imagined for a young lady of seventeen years of age? I doubt it very much. Such was her history. She had been the rounds of doctors, both in Philadelphia and this city, and had taken every known remedy for her condition, continuing their use for months at a time, but all to no purpose. This made me doubly anxious to relieve her. I first suggested an examination, which was readily agreed to. On account of her age and sensitiveness, I administered nitrous oxide gas and made a thorough examination of the pelvic organs and bladder. The former were in a perfectly normal condition, but I was rather astonished to find that the bladder measured only two and three-quarter inches from the meatus externus to its posterior wall. It was free from any foreign body, but I could feel the uneven, ridged surface of
the lining of the bladder, as if one fold of mucous membrane were lapped over another. As there was no history of any actual disease present, I could see but one conclusion to arrive at, and that was, that this was a case of "infantile neglect" to properly empty the bladder when Nature demanded. This continued neglect of Nature's calls resulted in the bladder becoming so reduced in size and capacity that in time it was so contracted that it could scarcely retain any water at all. During the day the patient could tell when the bladder was full and so empty it. This condition would bring about a partial paralysis of the sphincter vesicæ muscle, and consequently when the patient went to sleep at night this "small" bladder would fill up and overflow, and so keep her "in a pool of water constantly," to use her very words. The thought came to me at that time: "that if I could only increase the capacity of the bladder sufficiently to hold the water secreted during the night, the patient would be cured." I had never heard or read, at that time, of the forcible dilatation of the bladder for the cure of such a case, though, of course, I was familiar with the washing-out of the bladder for cystitis, etc.; so I determined to stretch the folds of the coats of this bladder so it would be capable of containing more water. All I used was a silver catheter with a small rubber tube connected with it, and to this was attached a Davidson's syringe. The quantity injected could easily be measured by knowing that the bulb of the Davidson's syringe, when emptied completely, throws into the bladder exactly one ounce of water. The water used was just "comfortably warm." At the first attempt at dilatation, all the bladder would hold was one and three-quarter ounces. The washing was continued every day, each day getting into the bladder just a little more than the day before. The force used by me was sometimes, to the patient, "unbearable," and certainly very painful. But when a patient is anxious to get well, and is encouraged to bear "just a little more water" by the doctor, the progress made is sometimes most gratifying. The amount of water used in this case was increased at the rate of half an ounce to an ounce a day at times, and then again it would be some days before any further impression could be made. At the end of two months' treatment, this patient's bladder would hold twelve ounces of water, and for the first time in her life she awoke in a dry bed in the morning. From this on, the capacity of the bladder was gradually increased by the forcible dilatation until it would hold eighteen ounces of water, and that without very severe pain. The patient, as the capacity of the bladder increased, would only have occasional involuntary escape of the urine at night. This became gradually less and less frequent until she was discharged, cured, and a most happy woman. The treatment had lasted in this case three months. I see her now from time to time, and she reports that she has never had the slightest return of her old trouble.
I was more than happy to be able to relieve this poor girl of her terrible affliction by what I then thought to be an entirely original plan of treatment.

This forcible treatment is sometimes most painful, especially at the beginning, and the patient must needs have a goodly amount of courage to go through with it. In connection with the dilatation, I have sometimes had recourse to a mild faradic current, applied directly to the neck of the bladder by means of a Simpson sound connected with the battery. This sometimes helps to restore "tone" to the sphincter vesicæ muscle. The forcible dilatation should be used daily until there is a very marked improvement in the retaining capacity of the bladder. Then it can be done every second day for a month; later on twice a week; and finally only once a week until the final discharge of the patient. In all these cases so treated by me, I have never had to give any medicine other than tonics, or perhaps some mild nervine from time to time, as the symptoms would demand. As a rule, each case had been through a most thorough course of medical treatment, but without the least benefit.

I have said that at the time I treated the case just related I was certain I had struck an original idea, for I did not remember then of ever having heard of a case of "contraction" of the bladder treated in a similar manner. In looking up the literature of the subject, I find very little mentioned in regard to such cases, and only one case could I find reported where the incontinence was cured by forcible dilatation. This case was in a girl, after puberty, whom Braxton Hicks had cured "by mechanical dilatation with warm water," but in what quantities I could not find out. Dr. Skene speaks of "forcibly washing out the bladder, distending it a little more each time," as being "well spoken of." Sir Henry Thompson, Ultzman, and Winckel all speak of washing the bladder in cystitis, but only employ small quantities of water, from sixty to three hundred grammes. Baker (of Boston) washes out the bladder for cystitis, the quantity being governed by the patient's feelings. This he repeats from two to four times a day with a saline solution, but for cleansing purposes only. In some cases of incontinence, Ultzman recommends catheterization every three or four hours to relieve the sphincter vesicæ from action. Baker also recommends sea baths, diet, change of air, and
Young Girls and Women. 921
tonics. Fritsch has cured some cases of incontinence by nar-
rowing the vagina just below the sphincter vesice muscle. Dr. Clinton Cushing, in the Pacific Medical and Surgical
Journal for March, 1882, says: "There is another element in
cystitis as a consequence of intolerance of urine, which is per-
sistent contraction and hypertrophy of the muscular coat. In-
jections are recommended, but never more than can be borne
without pain." In the treatment of enuresis in children and
adults, I find no mention of dilatation among the many remedies
given.

I only give the above few references just to show that there
is no mention made of contraction and hypertrophy and its
treatment by forcible dilatation, except the one case given by
Braxton Hicks. All the other cases are spoken of in incon-
tinence of urine due to cystitis, and, of course, we are all most
familiar with the recognized treatment of cystitis by washing
out the bladder.

Before finishing, I wish to mention briefly a few cases
-treated in the same manner as the first case, and with the same
happy result.

The second case coming under my care was a young lady from
Ohio, a Jewess, who had been unable to retain her water at night
for years. She was then 18 years old and engaged to be married.
This fact made her all the more courageous in undergoing the
painful treatment. The urine showed no abnormal conditions.
Her general health was perfect in every way. But just as soon
as she would go to sleep at night, the water would begin to dribble
away and keep up all night long. Her bladder was very much
contracted, and at the first treatment I only succeeded in inject-
ing a little over an ounce of water, the following day just a
little more, and so on until I could get in six ounces very easily.
To stretch the bladder from a six to a twelve-ounce capacity took
nearly eight weeks, and required a vast deal of patience, and con-
siderable pluck and forbearance on the part of the patient. At
twelve ounces she began to hold the urine all night. (Very little
water should be left in the bladder after each treatment. As
soon as the limit is reached, the water should be allowed to escape
from the bladder through the catheter at once.) As soon as the
twenty-ounce limit was reached, I allowed her to go home: she
was married shortly after. I heard from her three years after
her discharge. She was perfectly well, and the mother of a boy.

My third case was a little school girl of this city, also a Jewess.
She was 13 years old and had never menstruated. She had
been in the habit of "wetting her bed" ever since early child-
hood. Her mother used to punish her, to try and break her of
the feeling, but I perceive — From the necessary character of the process as it is — I am laying the groundwork and not the foundations. The other foundations are laid in the earth. I am not speaking of the earth. I am speaking of the earth. This idea was not before me, but was once the more clearly shown a good deal of preparation, very little amount of actual work, and once the lifting back in a property and we could not see — had — I see no example of anything that is possible.

I had two years come to young girls. Here this good-natured, much laborious, chivalrous, and earnest desire, with the larger question of what, and I could not give up.
HUFF: An Ischiopagous Monster. 923

AN ISCHIOPAGOUS MONSTER.

BY
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Chicago.

(With woodcut and full-page plate.)

While away on a short trip with a friend during the first week in July, I heard of a very remarkable monstrosity. The report came so well authenticated that I determined to investigate it. Sunday morning, July 7th, 1889, found us at a humble farm house near the border of Tipton County, Ind.

We were ushered into a small room where the wonderful babies with their mother were living. As we looked into the old-fashioned cradle, there appeared to us two separate and distinct infants, one slightly larger than the other, with their feet together and their heads lying in opposite directions.

1 From Wood's "Cyclopedia of Obstetrics and Gynecology."
Nothing was exposed except the upper extremities, which showed two heads and faces, with the same complexions, color of hair and eyes.

When we asked the privilege of seeing them uncovered, we were flatly refused by the nurse, who said that under no circumstances would she do so. The news of "the remarkable freak of Nature" had spread far and near, so that the lives of mother and babes were in danger from the morbid curiosity of the people. Again, they had received so many flattering offers from men of the "dime museum" type that they looked upon all strangers with suspicion. We were much disappointed not to see them exposed, but, after interviewing the father and convincing him that money was not our object, he promised us, if we would return in the evening after all visitors had departed, that our wishes should be granted. We were promptly on hand at the appointed hour. The nurse conducted us to the cradle and lifted the clothing, revealing to us a perfectly symmetrical ischiopagus. It followed completely the law that "when two or more individuals are united in composition of a monster, double, or more than double, the union takes place between homologous surfaces of the bodies." Their bodies, as they lie upon their backs, are in the same plane, form a straight line, and are literally placed end to end, the place of union being the pelves. There are four well-developed feet and legs, two on each side of the line of fusion, and placed at right angles with the bodies.

Both are females. The genital organs and ani are situated on the side of the line of union, but occupy the normal position with reference to the legs on either side. There was a common umbilicus, which entered the bodies at the centre of the line of union. Both bodies, down to the iliac crests, are as well developed as babies ordinarily are at the same age. When the legs are outstretched they form with the bodies a complete cross.

Their weight at birth was twelve pounds, and their length twenty-two inches.

These wonderful babies were born to Mr. and Mrs. J. the night of June 24th, 1889, about 11:30 p.m. The labor was less than two hours in duration and was completed before the arrival of the physician. Fortunately, an old lady was near by who had

1 W. W. Jaggard in "Cyclopedia of Diseases of Children" (Keating).
Huff: An Ischiopagous Monster.

had some experience as a midwife, and she was hastily summoned. In an interview with her I obtained the following interesting facts:

In reply to my inquiries, she said there was nothing previous to birth to arouse suspicion of anything unusual, except the extreme size of the woman, which had suggested the idea of twins. The enlargement extended high up toward the diaphragm.

When the midwife arrived at the bedside, the first head was already born. The pains were intense and close together, and the labor progressed rapidly until the pelvis was reached, when it was obstructed for a short time. The pains were soon renewed, however, and with a little assistance the labor was completed.

Each head, the midwife positively assured me, was born with the face directed to the back of the mother. The two legs in advance were born outstretched, while the other two were born folded on the body of the second child. The first child cried before the second one was born.

There were apparently two placentae, firmly united together, and one very large and nodulated cord.

These wonderful children are still living. While one sleeps, the other may be awake; when one cries, the other may be in a happy humor. The digestive organs, bowels, and bladders seem to act independently.

The most interesting feature of these twins is the anatomy of the parts between the crests of the ilei. Do the legs on one side belong to one child? Or does one leg on each side belong to each child? I was not permitted to lay my hands on them, and all the privileges I received were given with great reluctance, so that I cannot speak with the knowledge I desire on this point. The midwife says both spinal columns are perfectly straight, with only a short space between their lower ends. If that be true, it would indicate that one leg on each side belonged to each child. The attendants say that when one is asleep and the other awake and moving its legs, one leg on each side does the kicking.

While lying in the mother's lap, both babies can nurse at the same time, one from each breast; thus partially folding on each other. I am inclined to think this is accomplished by bending the backs instead of the pelvic junction.

The mother is a well-developed, pleasant-faced woman, nine-
teem years old, of medium size and very dark hair. The father is a finely formed man, height about five feet nine or ten inches, and sandy complexion. There is nothing in the previous history of either parent which throws any light on this peculiar product. These babies are the result of a second gestation, the first being a well-formed child two years old.

Technically, the monstrosity just described is a very perfect example of a monomphalic ischiopage, described by Charpentier (Wood's "Cyclopedia of Obstetrics and Gynecology," vol. iii, page 311) as "characterized by the union of two complete individuals fused together at the umbilicus face to face. The bones of the pelvis of one fetus, instead of meeting in the median line, are separated to the right and left to join those of the other fetus. We thus find two lateral pubic joints. The external genital organs are similarly arranged, the right of one fetus being united to the left of the other, and vice versa."

In searching the literature on the subject, I find no recorded case of the same character born in this country. Preenay records one which lived several months; Serres another which lived a shorter time. There is the cast of an ischiopagus in the Mütter Museum, College of Physicians and Surgeons, Philadelphia, showing the legs on one side fused together.

Since writing the above I have seen and examined these children, and can give a more positive report on some points of doubt. The spinal columns are straight and in close apposition at the lower ends. There is not the space of a finger's width between them. There are two pubic joints and arches, one on each side, with the pudenda and ani below them.

The evidence is conclusive that the pelvic organs of each child are deflected to the right side, so that the genital organs, bladder, and anus of each child are situated on the right side. This is not true of the legs. The evidence is conclusive, at this date, that the legs belonging to each child are those nearest its body on each side. We still have them under observation, and hope to make another report some time in the future.

5 Washington Place, August 10th, 1889.
REMARKS ON THE LOCAL TREATMENT OF THE UNMARRIED.

BY

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The local treatment of the unmarried has been heretofore greatly neglected on account of a universally prevalent dread among the profession, as well as among the public, of interfering with the generative organs of the virgin or unmarried woman.

The reluctance that every true physician entertains, through his innate sense of modesty and his sympathy with his patient, as well as the praiseworthy and much-admired modesty of the young woman, has heretofore been, and always will be, an impediment to the proposal of this ordeal on the one hand and its acceptance on the other. That this is so speaks highly favorably for both the physician and the patient.

The fear of injuring the hymen, the symbol of virginity, has been another impediment, though the profession discovered long ago that the apparently intact hymen is not an absolute proof of virginity, nor that the reverse is by any means a proof to the contrary.

If local examination and treatment are considered necessary for the married woman, they are just as much needed for the unmarried, since the latter is subject, with few exceptions, to the same diseases, malformations, and deformities as the former. The methods of diagnosis and treatment should, therefore, be the same for the one as for the other, with the exception, however, of adapting the necessary means to the difference in size, shape, and accessibility of the diseased organs.

The general practitioner (and this applies also to many gynecologists) prescribes at guess remedies, of which he knows little, for diseases of which he knows less, because of the neglected diagnosis, in the usually vain hope of curing his patient without the infliction of a local examination.

1 Read before the St. Louis Obstetrical and Gynecological Society, May 16th, 1889.
Thus the young woman will be subjected to a treatment which no one would think of practising in the case of a married woman, and her diseases will be permitted to go on unrelied until they have become incurable, until her health is permanently undermined, or until she has made her future husband unhappy by burdening him with a sickly wife.

All this she has to tolerate for no other crime than that of being what she is—a girl, a virgin.

Such trifling is no longer admissible in the light of the present advancement of medical science. On the contrary, we should guard against falling into the opposite error, that of subjecting the young woman unnecessarily to local examination. Not unless the symptoms point unmistakably to the existence of derangements in the pelvic organs, and not then unless the disease which these symptoms denote needs local treatment, should local treatment be attempted. Should the question of the existence of intrapelvic disease not be fully settled in the mind of the examining physician, an attempt should be made to cure it by other means; but if, after a fair trial, these fail to show any result, then, without loss of time and without hesitation, a local examination should be made and the necessary treatment instituted.

It happens frequently that the patient and her relatives have come to the conclusion long before the physician that the case is one of a local character. Where this has not happened, it is quite surprising how reasonable both the mother and the daughter may be, and how grateful both will be to him who takes sufficient interest in the case to propose and recommend the unavoidable, however disagreeable it may be to both parties.

It is a great and often-committed mistake to counsel marriage for all diseases of young women. Most diseases of women are absolutely aggravated by marriage; few, if any, benefited. It would be far more sensible to see that every young woman was as nearly in a state of perfect health as possible before entering the bonds of matrimony. Much unhappiness and much regret could thus be prevented.

This conservative spirit, as described above, is, however, not universal, as many err on the opposite side by disregarding the differences existing between the married and the unmarried, and by treating both alike. By them the hymen is merely regarded as an obstruction to the necessary manipulations, and therefore
the quicker it is destroyed the better. Other rude manipulations usually go hand-in-hand with this, which is to be highly deprecated, as it casts a shadow on gynecology and deters many from seeking relief from their troubles until necessity forces them to accept anything, or until it is too late.

Many would rather suffer a lifetime than subject themselves to such harsh and, to their understanding, disgraceful treatment, because to a young woman the proof of her virginity is always her most precious possession.

Objection will rarely be made by the patient, where local treatment is found necessary, provided this be proposed in a kind and inoffensive way, especially if she can be assured that no other traces will be left of the treatment than her improvement.

If it is admitted that local examination and treatment of the unmarried are necessary under certain circumstances, and disruption of the hymen not permissible unless unavoidable from the character of the disease or for surgical operations, it becomes necessary to adapt the means for such treatment to the class of cases under consideration.

With the means as I have adapted them for this purpose, I have for many years past practised extensively among unmarried women of the middle and upper classes, and I cannot recall a single case where I or the patient had cause to regret the proceeding.

The instruments to be described are the speculum and pessaries.

The speculum is a modified Nott's rectal speculum. When closed, the three blades measure in circumference 5 cm. (about two inches); when opened to the full extent, the point embraced by the hymen measures a fraction over 7 cm. (about three inches), while the distal ends of the blades reaching to the vaginal fornix spread to the extent of $14\frac{1}{2}$ cm. (nearly six inches) in circumference. The length of the posterior blade is about 10 cm. (about four inches). These measurements correspond to the dimensions—i.e., length and circumference—of my index finger, which is rather long and slender, with the exception that the full expansion of the blades exceeds in its circumference that of the thickest part of my index finger by about 5 mm. (about a quarter of an inch).

It is rare to find the aperture in the hymen, even of very
young girls, after the attainment of puberty, smaller than would admit the introduction of my index finger without force or without causing pain. So seldom is this the case that I have learned to look upon it as abnormal.

When this abnormal contraction exists, not to excess, this speculum can be introduced, and, without spreading its blades to the full extent, all necessary applications to the uterins and vagina may be made without rupturing or overstretching this membrane. Even the tampon, for hemorrhage, repression of menstruation, or cystitis, can be safely inserted if desired. Also the applicator, electrodes, syringes, repositors, etc., can be used with facility. If desirable, the speculum can be withdrawn, while the electrode, etc., may be left in situ.

The diagnosis being properly made, and the use of the speculum found necessary, this will be introduced, closed, in the direction of the previously ascertained position of the cervix; then the screw by which the blades are spread must be gently turned until fully spread or pain is complained of; in this latter case, the last partial turn of the screw by which the pain was produced must be at once undone. Should the cervix not present itself within the blades, the instrument must be gently turned in the direction in which the cervix was found by the previous examination.

The advantages of this over all other specula for this class of cases are so apparent that I consider it unnecessary to specify or defend them.

Pessaries are not only useful but absolutely necessary instruments, in my opinion, for this class of cases, despite the recent wonderful improvements in gynecological practice and surgery. The smallest pessaries in the market, to the best of my knowledge, correspond in size to the No. 10 Hodge pessary. These are far too large and clumsy for most virginal cases, though, for some, much larger instruments are occasionally necessary. To supply myself with these smaller pessaries, I had a set of three circular rings, made of the best vulcanized india-rubber, of the thickness of a No. 9 American (or No. 14 French) catheter, with a diameter of 2 inches (5 cm.) outside measurement of the smallest, $2\frac{3}{8}$ inches (6 cm.) of the next, and $2\frac{5}{8}$ inches (7 cm.) of the largest size. The good quality of the material and thinness of the bar render them very flexible
Cook: Maternal Impressions Affecting Fetus.

with a moderate heat (spirit lamp, gas jet, or candle), and any kind of pessary can easily be shaped from these rings.

Anything that is useful or necessary in the shape of a pessary can be made of them. I make the Hodge pessary for backward displacements, and the Gehring anteversion pessary for anteversion and anteflexion, both with numberless variations to fit the respective case. The two smaller rings serve to make smaller pessaries than any I have seen in the market. They are highly necessary in the treatment of the unmarried. Wherever my index finger can be introduced, these pessaries can be introduced also, provided they are made like these I exhibit here. You see the Hodge form of pessary is very narrow in proportion to its length, but so also is the cavity for its reception. If the substance of the rings were thicker, there would be an insufficiency of space between the bars, and the cervix would become strangulated between them. This holds true also of the anteversion pessary, especially the smaller sizes, in which the bars are also nearer together.

I hope that some of the members present may have superior instruments for this purpose in their possession, and give the Society the benefit of them.

DO MATERNAL MENTAL IMPRESSIONS AFFECT THE FETUS IN UTERO? ¹

BY

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A contemplation of the vagaries of the human mind is always interesting and instructive, and no less engaging is the consideration of the physical deformities of the human body; but when we reflect on the suggestion that a freak of the mind may determine the configuration of the physical body, the thought excites the profoundest wonder and may claim the closest scrutiny. An innate love of mysticism makes easy our belief in the traditions of our fathers, and, though reason scorns at superstition,

¹Read before the Washington Obstetrical and Gynecological Society, April 5th, 1889.
there is a lingering belief in omens of good and evil. That there is physical deformity of the human body is a painfully apparent fact. And since the days when Jacob laid the peeled rods at the drinking troughs before the rutting flocks of his father-in-law, that they might bring forth ring-streaked and spotted young, the belief has been current that the mother's mind influences the development of the fetus in utero. But examined by cold logic in the early morning when the mind is free from cobwebs, keeping in view the laws of symmetrical development which cannot be warped by the desires or emotions of a susceptible mother, the belief does not appear to have any foundation in reason or fact.

To make this clear, it is only necessary to follow the ovum in its voyage from the time it leaves its mooring in the Graafian follicle in the stroma of the ovary, passing through the canal of the oviduct into the harbor of the uterus, where, if it has been fertilized, it may find safe anchorage by the development of a placenta and an umbilical cord. From the moment of the escape of the ovum from the Graafian follicle, it is separate and distinct from the mother, and will be cast out as effete unless it becomes vitalized. Should this floating egg become fertilized, what changes take place? Instead of being thrown out as dead, it finds a hospitable lodgment within the cavity of the uterus, where it imbibes nutriment from its succulent tissues, until after a while its vascular system is developed and its circulation is carried on by means of the umbilical cord and placenta. It is needless to enter into detail as to this circulation, as it is well known there is no direct vascular connection between mother and fetus; the villi of the fetal vessels dip down into the placental sinuses supplied with blood from the uterine vessels, and by a process of dialysis nutriment is furnished to the fetus. Not only is there no vascular connection, but there are no nervous filaments communicating from mother to fetus. What, then, is the deduction from the fact that a developing creature finds a congenial lodgment within a cavity of a body, and, without direct vascular or nervous connection, draws pabulum from that body for its own growth and development until it is ready for separate and independent existence? It is that the developing creature bears the relation of a quasi-parasite to the body in which it resides. And this is the relation between fetus and mother. A fetus in utero is as much a parasite as is
A tapeworm in the intestinal canal, or as the babe that draws its sustenance from its mother's breast. Now, then, if the fetus in utero has no direct vascular or nervous connection with the mother, but draws nourishment by endosmosis and bears to her the relation of a quasi-parasite, how far can maternal mental impressions affect the fetus in utero? To my understanding it is clear that the mother's mind has no power to localize hypertrophy, nor determine atrophy, nor inhibit development of any particular part of the fetus in utero.

On the other hand, many maintain the contrary doctrine, and assert that pregnant women who have had ardent longings for certain articles of food, as fruits and vegetables, are extremely liable to give birth to children on whose bodies will be found a representation, true in form and color, of the particular fruit or vegetable desired. A pregnant woman is frightened by a snake crawling into her house; she points to it with her right index finger and immediately faints: she is subsequently delivered of a child whose right index finger is so transformed "that the end of it is devoid of everything like a nail, save in those points which correspond in size and position to the eyes and mouth of a snake, and presents almost an exact resemblance to the head of a serpent." A lady in the beginning of her first pregnancy sat at table opposite to three sisters, each of whom had harelip. The first sight of them made her so faint that she left the table and did not return. She was afterward delivered of a child that had double harelip. After the birth of the child, the mother told her attending physician that she knew the child would have harelip, as she had dreaded it all the time. Why there were only two fissures and not three, as the mother saw three harelips, is not apparent. Here we have instances in which it was said the deformity was produced in the fetus by a profound excitation of the emotions of desire, instant fright, and dread on the part of the pregnant woman.

Per contra, a wife, the mother of twelve daughters, was and had been desirous of giving birth to a son, and she and her husband had often condoled together that, out of their numerous progeny, there was no male heir to perpetuate the father's name. The wife had about abandoned all hope of having a son, as several years had elapsed since her last pregnancy, and she was approaching that age at which women usually become sterile. They were pious people, and the matter had been a
subject of frequent prayer. The husband, remembering that Sarah had borne a son to Abraham in her old age, was more hopeful than his wife, so he took into his confidence Aunt Jane, a noted midwife in that region, who had a reputation for being familiar with all that related to pregnancy and parturition, and was also a firm believer in the influence of maternal mental impressions upon the fetus in utero. Her instructions were that in the act of copulation the husband and wife should assume certain postures which were minutely described by Aunt Jane, but are not necessary to be detailed here, and under these conditions impregnation would certainly occur. Having accomplished that, it would only be necessary for the mother to look at the man in the moon and to ardently long for the desired son. Time went on, and in due course of events the wife became pregnant, and, in obedience to Aunt Jane's injunction, she diligently watched the moon through an entire lunation. She carried in her mind a picture of a beautiful boy, and when she felt the first movements of the child in her womb her heart was filled with joy, and she fondly believed that ere long she would be the possessor of what she so ardently desired—a son. In due time she was brought to bed and delivered of her thirteenth daughter, who was well developed in every particular, except that in the centre of her forehead was a large, round nevus. As the child grew, this nevus presented most striking peculiarities; and it was observed that the moon exercised a most remarkable influence upon it, in that the nevus presented a roseate elevation upon its surface, which corresponded exactly in shape with that portion of the moon which was luminous at the time of observation—that is, when the moon was young, the nevus presented a crescentic roseate elevation, while the remainder was of a dusky hue; and as the moon grew, the elevation increased, until at full moon the entire nevus was elevated above the surrounding surface and was of a blood-red color; and as the moon waned, the elevation retrograded in the same degree, so that the phase of the moon could be determined by an inspection of the nevus. I cannot vouch for the truthfulness of this narration, though it is as plausible as many others that are backed by authority. It is related simply for the purpose of propounding the inquiry, How did it happen that the beautiful boy so ardently longed for by the mother did not materialize, but in his stead came the shockingly blemished
Affect the Fetus in Utero?

I might recount numberless instances in which pregnant women apprehended fearful deformity in their unborn children, yet their fears were happily not realized. A soldier lost his leg in battle. After his return home, his wife became pregnant, and both were apprehensive that the child would be born minus a leg; yet it was delivered without the slightest deformity. If the emotions of strong desire, instant fright, or dread on the part of the pregnant woman could mark, alter, or destroy any part of the fetus in utero, then why may not these emotions mark, alter, or destroy the entire body? Certainly one is as plausible as the other, and, if such power did exist, what a welcome condition of things it would be to a woman illegitimately pregnant! With the strongest desire to be rid of her incumbrance, and an ever-present dread of her condition being discovered, the fetus should melt before her hot emotion as the snow beneath the noonday sun; yet no such case has ever been known. Fortunately the laws of development are not so easily abrogated by the emotions of the mother, or we would have a nondescript race inhabiting the earth in the place of man. There is an excusable desire on the part of mothers to account for any blemish on their children by attributing it to some extrinsic cause, and they can usually find some explanation in their imaginations that is entirely satisfactory to them, but which should have no influence upon the mind of one who understands the connection between mother and fetus. Again, many and perhaps the majority of deformities occur without the mother having been conscious of any special mental shock. Then, too, in the vegetable kingdom, there are many departures from normal growth. What is the influence that determines this?

There is in a panel of a door in my house a good illustration of this departure from normal growth. The appearance of the spot is quite striking. Viewed from one direction it shows the outline of an owl; from another point of view the profile of a woman's face, disconsolate in appearance, is distinctly seen. Perchance this panel of wood is from the identical tree under which the historic melancholy maiden knelt in prayer when she asked that a husband might be sent her, and from the branches of the same tree, doubtless, came the voice of the owl saying "Whoo! whoo!" And the maiden, in the joyful anticipation of the realization of her fondest hopes, cried out,
"Anybody, Lord, so it is a man!" Such a scene could but produce a deep impression. The images of the participants were indelibly graven on the heart of the tree. It is remarkable with what precision and nicety wounds and the like that have been witnessed by pregnant women are said to be reproduced on that portion of the body of the fetus corresponding with that part of her own body upon which she placed her hand when she saw the wound. In a recent medical journal, a case is reported in which a pregnant woman saw a child circumcised, and when her babe was born it was minus its foreskin, and even had marks of the sutures identical with those upon the surgically circumcised child. Where did the mother place her hand in this instance? And suppose her child had been a female? I know that negation is not proof, but the justness of the following conclusions makes it as certain as can be without positive demonstration that maternal mental impressions cannot affect the fetus in utero.

1. There is a wide-spread belief among women that maternal mental impressions do affect the fetus in utero, yet there are more instances of congenital deformity, including birth marks, occurring in children whose mothers had no particular mental shock or apprehension of any special defect in their offspring, than happen in those whose mothers had strong mental impressions that some defect would exist.

2. In plural pregnancies, it is absurd to suppose that one fetus can be affected by maternal mental impressions to the exclusion of the other.

3. A woman with her nervous and vascular system in perfect working order cannot by the processes of her mind, either voluntary or involuntary, affect the nutrition of any particular part of her own body. There is no nervous or vascular connection between the fetus in utero and the mother, but the fetus bears the relation of a quasi-parasite to the mother; hence it follows that maternal mental impressions cannot affect the fetus in utero.

3 Thomas Circle.
IMMEDIATE RESTORATION OF THE PERINEUM AFTER LABOR.¹

BY

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I must crave the indulgence of this Society for bringing before it a subject so worn and threadbare, upon which so much of worth has been written of late. I must plead as my excuse for so doing the fact that I am constantly meeting with cases who are suffering from the effect of neglected perineal tears, and that a large number of these cases give the same history, viz., that after delivery they were not examined by the attending physician.

When asked by such a patient, "Ought not this tear to have been immediately restored?" I always say, "That is a question which one cannot answer now without consulting your attending physician, for many conditions of the system might have made it unwise at the time." Although the teaching of many eminent men makes such an answer possible, still I must say that the conditions or combination of conditions which might make it either unwise or dangerous to perform immediate perineorraphy are very rare. The excuse that these tears do not always unite seems hardly worthy of discussion; for if the stitches do nothing else than to lessen the risk of septic absorption, they are well worth the trouble of introduction.

In studying this subject, there seem to be two powerful reasons which lead many physicians to neglect the immediate restoration of perineal tears.

The first of these reasons is the mistaken idea, which is held by both the laity and by many physicians, that the obstetrician is always responsible for the perineal tear. The layman has been led to believe that if some older, some more experienced or more careful physician had been employed, this very large child of his would have been brought into the world through this very small opening without any injury to the latter.

¹ Read before State Society, June, 1889.
Some of our best teachers on the subject of gynecology are apt to lean to such ideas. Only a short time ago I heard a physician, who is one of the best of teachers, tell his patient that a certain laceration of the cervix and perineum from which she was then suffering would not have occurred if her physician had seen her earlier in confinement and given her a little chloroform. Now, such a theory as this is certainly unfounded, and, more than all, is very unjust to the obstetrician. For suppose the woman to have been small, that she has had a very rapid labor with a large child, so that the parts have not had time to dilate; or, if the labor has been dry or tedious, so that the child's head has rested too long in one position, and the tissues have suffered from pressure and have failed at the last simply from the loss of vitality. Or suppose the labor to have been abnormal from the position of the child—occipito-posterior, brow, or face presentation, or where it has been necessary to introduce the hand into the vagina or to deliver with forceps. In any or all of these conditions, ought we to say that the fault is with the obstetrician, and, on the other hand, should we not rather be surprised when the woman passes through such a labor without laceration? The proper teaching, it seems to me, should be that in certain cases laceration is unavoidable, and that the fault lies not so much in the production of laceration as in the overlooking of it.

There are certain procedures advised by different authorities for the prevention of this accident, viz., support of the perineum, pressure on the advancing head, chloroform, use of the forceps, and episiotomy. Now, we know that the first four of these methods will accomplish much in careful hands, where the careless use of these same means, especially the forceps, will produce great harm. Still, in certain cases, any or all, however carefully used, cannot prevent a certain amount of perineal laceration.

In regard to the last method, episiotomy, I speak from a theoretical standpoint, for I have never seen it performed nor used it myself, because I have never seen a case which I thought called for the operation. Of course, if in a certain case I thought the woman could not be delivered without a complete tear of the perineum, rather than see the laceration extend through and into the rectum I would most certainly perform episiotomy. But as the history of complete perineal
tears shows that they cannot always be foreseen, and as many of these injuries commence in the recto-vaginal septum above the apex of the perineal body, and as we are only made aware of the injury by the external explosion, therefore I am forced to think that episiotomy can but seldom be advantageously used. What do we actually accomplish by this operation? The knife is applied to the side of the vagina during a pain, at a time when the parts are strained to their utmost; the mucous membrane, the fascia, bulbo cavernosus, or sphincter vaginae muscle, and possibly some fibres of the levator ani muscle, are divided, allowing the anal segment of the pelvic floor to drop back, and in this way giving room for the child's head to pass. We now have to deal with an anatomical injury which sometimes occurs in a severe labor without the intervention of this operation, and which produces in after-life a condition called relaxation of the vagina, where, although the woman has a complete perineal body, she still suffers from loss of power—the power of contracting the introitus vaginae and of supporting the rectum—and as a consequence she suffers from cystocele, rectocele, or perhaps prolapsus. Episiotomy, therefore, produces one variety of laceration of the perineum, and one which it is neither easy to limit nor to repair.

The second, and perhaps the most important, reason why the physician hesitates about making this simple perineal operation lies, it seems to me, in the operation itself as it is now usually performed.

The professional mantle of Baker Brown, with his wonderful ingenuity in accomplishing a certain result in the most impracticable way, seems to have fallen upon us all. In deciding for or against this operation, the physician recalls the suffering and the pain which he has seen follow it, requiring large amounts of morphia; he remembers the bandaged limbs and the nurse with her dirty catheter, and decides that the cure is almost worse than the disease; consoling himself with the thought that some of these tears unite without any operation, and others suffer no inconvenience in after-life although badly torn.

If you separate to any great extent the limbs of either a living or a dead woman, you will find that the labia majora can be but very slightly separated, and that the labia minora cannot be separated at all. Keeping this fact in view, we see that
bandaging of the limbs is of no value, and also that the deep constricting stitches which are passed from the skin surface of the perineum are not as necessary as has been supposed; for if the stitches are properly set, there should be no strain upon the parts. The same is true in secondary perineorrhaphy, providing that the denudation has not been carried too far out upon the labia in striving to bring together parts that were never in contact. Deep silver stitches have their place, but should not be the only sutures used in the perineum, and for several reasons. First, that, in order to bring the sides of the wound together and close the mucous edges of the tear, the wire must be very tightly twisted; and even then we cannot be sure that the tear in the mucous membrane, the most important part, is accurately apposed. Second, the twisting of the stitches draws the perineal body downward just enough to bring the highest point of the perineum in front of the meatus urinarius, so that the first time the woman urinates part of the urine flows backward into the vagina, irritating the raw surface, producing nervous retention, and thus necessitating the use of the catheter, which is always a deplorable circumstance. The stitches often cut, leaving irritable perineal scars which must heal by granulation, and give as a result a skin perineum perfect externally, but of no physiological use to the woman. In disposing of the free ends of the stitches, they are usually bound together, so that touching or moving one moves them all, producing a great deal of unnecessary pain.

The operation that I have to propose in the place of the ordinary perineal operation is as follows: When by examination with the finger, or by both the finger and the eye, a perineal tear has been discovered, the woman is immediately brought to the edge of the bed in the lithotomy position, and a sponge wrung out of a strong bichloride solution is pushed into the vagina above the upper angle of the tear, to keep the blood from obscuring the sight during the sutting. Use a short, round needle threaded with a chromicized or sublimated catgut suture, and a short pair of needle forceps, all of which should be carried in the obstetric bag. Commence the stitch in the upper angle of the tear, and, after making it fast, enter the needle on one side of the wound just below the edge of the tear in the mucous membrane, bringing the needle out in the bottom of the wound; re-enter the needle at the bottom of the
of the Perineum after Labor.

tear, bring it up to, but not through, the mucous membrane on the other side of the tear, in this way whipping together and uniting the wound with an over-and-over continuous buried stitch, bringing the mucous membrane accurately in apposition, and leaving no part of the suture exposed on the mucous surface. On the skin surface, one or two interrupted catgut stitches will close the skin edge of the perineum. For this suture, sublimated or chromicized catgut is the best, because it either absorbs at the end of about two weeks or becomes incysted and produces no irritation.

If thought necessary, a single silver-wire stitch can be introduced on the skin surface of the perineum simply to act as a splint. The free ends of the wire should be controlled by a compressed shot. This will produce no irritation, no pain, and is the best way of securing all silver stitches whenever it is necessary to use them for the restoration of the perineum.

By this method of operation, the anatomy of the perineum is not disturbed; the highest point of the perineum is left behind the meatus urinarius, so that when the urine is passed it does not flow back into the vagina; consequently it is very seldom necessary to use the catheter. The pain after this operation amounts to almost nothing; even a single one-quarter grain suppository of morphia is seldom required, and, according to my experience, the failures to unite are very, very few.

In my last seventy cases of confinement, covering a period of a year and a half, I have used this method exclusively, and with the most satisfactory results, both to myself and to my patients. During this time I have had eight perineal tears which I considered as necessitating suture. All but one of this number united perfectly, and in not one was there any rise in temperature showing septic absorption. They have all been able to pass water without the use of the catheter. So far in this paper I have not taken up the subject of complete perineal tears. The restoration of such an injury would not differ from the above operation, excepting that I should first introduce a buried catgut stitch which would bring together the mucous membrane of the bowel, and afterward the buried stitch as mentioned above.

The after-treatment of a woman after perineal suture does not differ from the ordinary care of a woman after confinement—light diet; antiseptic vaginal douches only when the
lochia, pulse, and temperature show any danger of septicemia. The bowels should be moved by an active cathartic on the morning of the third day, and the woman kept in the recumbent position for about fourteen days.

I do not claim originality for this operation, but I do claim a great superiority over the ordinary perineal operation, and I am sure that if the members of this Society who have been accustomed to use the old silver constricting or bunching stitch will give this method a single trial, they will never subject their patients to the inconvenience and pain—I may almost say tortures—of the older method.

SUPPURATIVE MASTITIS FOLLOWED BY SEPTICEMIA AND METASTATIC PAROTITIS.

BY

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Mrs. H. W., aged 38, was delivered of a living child February 20th, 1887. There was nothing abnormal about the period of labor and childbed. Subsequently a severe attack of internal hemorrhoids, for which the patient was treated by me during the month of April, was relieved by the use of suppositories. The child was from the beginning of a delicate nature, subject to frequent attacks of colic (probably brought on by irregular feeding), which culminated finally in a severe attack of gastro-intestinal catarrh complicated with a troublesome eczematous eruption. On May 20th, the mother consulted me at my office on account of a slight abrasion of the nipple. Greater attention to regularity in nursing the child, and absolute cleanliness in regard to the care of the nipple and the child’s mouth, were insisted upon, and a solution of tannin and glycerin ordered as a local application to the nipple. Whether or not this was attended to, in about one week later all the evidences of an incipient mastitis were present. Compression was resorted to, together with emollient applications, the bowels freely purged, and the child not allowed to nurse from the diseased breast. Notwithstanding these precautions, an abscess of the left breast began to form a few days later, with all its concomitant physical and mental disturbances. During this time, the child, deprived of its proper nourishment and already much
Septicemia and Metastatic Parotitis.

debilitated by its gastro-intestinal disorder, gradually wasted away, and finally died of acute meningitis on June 17th. The abscess in the mother's breast was promptly opened about one inch and a half below the nipple, in the median line of the breast, which discharged about one teacupful of pus. This gave immediate relief, but soon other lobes of the gland began to be affected in a similar manner, both to the left and right of the original abscess. It was with the utmost difficulty that a proper examination of the breast could be made, as the patient would not permit touching the affected organ. Under pretence of probing the first opening, I succeeded in entering the abscess on the left by a keen thrust of the probe and thus draining it through the first opening already made, as the patient would allow no further cutting. Afterwards, however, I succeeded in opening also the abscess on the other side of the nipple with a bistoury. Things were at this stage when the child died. In spite of the great physical pain and mental worry, the mother had not had up to this time much constitutional disturbance, and fever had not been very high. On June 19th, however, the day of the child's burial, the mother was seized with a violent hysterical attack (to which she had been subject before, as she was of a very nervous temperament), which was followed by a sudden onset of fever. On my arrival, I found the temperature 107°, pulse 140. Previous to this the temperature had never risen over 102°. The pulse was full and bounding, the skin hot and dry, the whole body seeming aglow. I had the patient at once stripped of all her clothing and wrapped in a cold wet sheet, and gave thirty grains of quinine in one dose internally. Besides this, ten-drop doses of tincture of veratrum viride were ordered to be given every hour till further notice. This had the desired effect of reducing the temperature several degrees in a few hours, but the patient still seemed to be in a very precarious condition. An examination revealed an increase of dulness in the region of the spleen and a swelling in the right parotid gland. Dr. Forchheimer was called in at this juncture by the husband, and confirmed my diagnosis of septicemia and metastatic parotitis. This swelling continued to increase until it reached the size of a man's fist, when suppuration set in and an enormous amount of pus was discharged upon incision. The breast, which had been washed out daily with an antiseptic solution of bichloride of mercury, gradually though slowly began to heal up. The patient began rapidly to gain flesh and improve under tonic treatment after the septic symptoms disappeared. She was discharged as fully recovered at the end of July.

This case is of great interest because some points are unusual. These are the period of lactation when the abscess occurred, and the great constitutional disturbance caused by its presence. Mastitis occurs almost exclusively during the time of greatest activity of the lacteal function, namely, following puerpery.
A disturbance in this function is most likely to occur, first, at its very beginning, immediately following childbirth; and, secondly, towards the end of activity of that function, namely, the period of weaning. Hence, we find acute mammary troubles occurring either in the first four weeks of lactation or about the tenth month. In the former, they are excited by the establishment of a new function struggling under difficulties, especially in primiparae; in the latter, by irregularities in the gradual cessation of that function. Between these two extremes, mastitis rarely occurs in the middle period of lactation, as in the case reported.

Winckel places the general liability to mastitis at six per cent in all nursing women; only one in fifty patients suffering from mastitis had not nursed her child.¹

Nunn records 58 cases of puerperal mastitis; of these, 33 occurred in the first two months (19 in the first and 14 in the second) and 17 after the tenth month. The remaining 8 occurred from the third to the ninth month of lactation.

Whilst inflammation of the breast is not a rare affection in nursing women, its termination in suppuration is not so frequent an occurrence at the present day as formerly. This is due in no small degree to the better appreciation of the value of certain methods of aborting suppuration. Even after inflammation has occurred, when the first stage of engorgement has not been passed, we may hope to prevent the formation of an abscess by proper treatment. This is very simple, and may easily be expressed in two words: compression and rest. But, as in many other things, both will be insufficient if not properly carried out. By compression is not meant the ordinary bandaging of the breast as often practised, which simply supports the breast, but the systematic, thorough, firm, and equal compression of both breasts in their entire periphery by a stout, smooth roller bandage. In one instance, I obtained excellent results by the use of a wide Martin's rubber bandage, but it cannot be borne by the patient very long, as its tension is rather painful. Compression must be equal in all parts of the mamma.

By rest is meant rest of function. The child should not be allowed to nurse if there be any evidences of mastitis arising. After the breast has been emptied of milk, compression can be more easily effected and re-engorgement prevented.

¹ "Pathologie u. Therapie des Wochenbetts.," 3, Auflage.
But, fortunately for the safety of the nursing mother, even if an inflammation of the breast proceed to suppuration, septicemia or pyemia rarely results. All works on puerperal diseases of the breast mention the possibility of such an occurrence, but I have not been able to find the record of a single instance of septicemia following mastitis, except secondary to a general septicemia, as may occur in septic metritis, etc. The most salient points in my case are the evidences of septicemia and metastasis. The relationship of these two pathological conditions is undeniable in the case reported, as also the fact that the latter acted salutary to the former—in other words, the patient would have died if the morbid product had not found an outlet through the secondary inflammation and suppuration of the parotid gland. It may be asked, Why should septicemia arise after an abscess had already formed and been opened in the breast, thus giving free exit to the poison? It must be remembered that several lobes of the gland became affected in succession, and it is not impossible that the germs were carried along the lymphatics before one of the newly formed abscesses was opened. How much the moral or mental depression may have had to do with this symptom it is difficult to understand. That moral impressions may powerfully effect certain pathological changes, probably temporarily arresting Nature's efforts at eliminating morbid products, is proven by sudden fatal changes, occurring in other diseases, referable to such causes. The possibility of pyemia occurring even after an abscess had been opened is already mentioned by Kiwisch in his work on puerperal diseases. Winckel endeavors to explain this by the theory that the ingestion of air during the opening of the abscess may cause septicemia. In the case reported, as already mentioned, it is also possible that the lymphatics had absorbed the poison before the abscess was opened, and the discharge of pus occurred too late to prevent systemic infection. The great distribution of connective cellular tissue round and about the milk follicles, some of which are deeply imbedded in this meshy structure, will permit a considerable burrowing of pus in the vicinity of the affected acini before the outer surface is reached, and facilitates the absorption of pus by means of the lymphatics. It is really surprising that such does not occur more frequently. The most remarkable feature in this case, however, was the suddenness of the onset. Before the nervous outbreak caused
by the illness and final death of her child, the mother's symptoms of mastitis showed nothing unusual. The death of the child, indeed, caused the outburst of a violent hysterical spasm, but at this time it was not accompanied or followed by a rise in pulse or temperature. That the sudden rise two days later was not simply of nervous origin is evidenced by the subsequent appearance of the parotid inflammation. The only explanation remaining is that the profound mental shock caused a sudden depression of the vital powers, suspending the "resisting power of Nature" in an already debilitated subject, by which the poison pervaded the whole system and finally expanded itself in the parotid gland, whence it was ultimately discharged, thus saving the life of the patient. For from the first onset of this symptom until the localized inflammation in this gland appeared, the patient was in a precarious condition.

The intimacy existing between the parotid gland and mammary gland in the female is well known. Trousseau mentions this fact in his lecture on mumps. He says that whilst in man there is a sort of vicarious action between the parotid gland and testicle, in woman it is not the ovary but the mammary gland that thus enters into a mutual relationship. He cites, however, also the instance of a young girl in whom menstruation and parotitis alternated with each other; here showing the relationship of the uterus, and probably ovaries also, with the parotid. Hennig mentions an instance where a metastatic mastitis occurred after a parotitis in a typhoid-fever patient. It is known that a metastatic mastitis may occur in the course of a puerperal lymphangitis or phlebitis in the generative organs of woman. In fact, such a complication in severe cases is regarded as rather favorable because it is usually followed by a diminution of the symptoms of septicemia. It must be noted, however, that in all the instances just cited metastatic mastitis was secondary to suppurative inflammation in other organs, whereas in my case the mastitis was primary and parotitis secondary. Billroth's views regarding metastasis when it occurs in the mammary glands in puerperal fever may find a place here; he says: "Whether a mastitis arising during a puerperal fever is of a metastatic nature (that is, if it is to be placed on a parallel with abscesses as they sometimes occur in other organs and in the cellular tissue in pyemia) is hard to say. There seems to be no doubt that a very extensive suppurating mastitis may lead to
Septicemia and Metastatic Parotitis

pyemia; it would therefore not appear strange, reasoning from other observations, if slight cases of puerperal disease of the genitals, which usually heal without difficulty, should, under the influence of a pyemia caused by mastitis, go on to marked suppuration. Under these circumstances, it would be difficult to decide which of the purulent foci found on section was the primarily infecting agent and which the infected. Hennig mentions the case of a metastatic mastitis occurring in the course of typhus fever after a preceding parotitis 1 (already quoted above).

A very important factor in the etiology of mastitis is also established by the case reported, namely, the influence of sore nipples in the production of parenchymatous inflammation of the breast. All late authorities are agreed on this point, and, in the view of new light thrown on this subject by Bumm and Escherich in the recent discovery of particular cocci in the pus of such abscesses, the rationale of infection through the nipples is easily explained. According to Bumm, there are two ways by which microbes may enter the breast: through surface lesions and through the acini ducts. The former offer the most common and ready entrance for the germ; bacteria have, however, also been found in the milk in lobes which were not inflamed. This is difficult to explain, unless it be supposed either that not all of the milk is discharged from the lobules, or that the surface lesions in the nipples are so minute as to be invisible to the eye and cause no pain to the mother. For it is easy to understand how these germs may enter from without through apertures ever so small. The fissures in the nipples may be very minute and yet large enough to afford entrance to the infecting element. Two forms of micrococci have been found in the breast: the staphylococcus aureus and the streptococcus pyogenes; the former causes parenchymatous, the latter phlegmonous inflammation of the mammary gland. In many instances the infecting agent may be carried to the breast of the mother by the mouth of the child—a mode of infection easily explained when there are fissures in the nipple. One French author, quoted by Velpean in his work on "Diseases of the Breast," goes so far as to say that in all cases of fissured nipples these may be ignored altogether in the treatment, and attention should be solely directed to the mouth of the child.

Whilst not subscribing to so extreme a view, I am of the opinion that many a mastitis may be caused in this way, and hence the mouth of the child should be examined carefully. It is not improbable that, in the subject of this paper, mastitis occurred through the mouth of the child infecting the nipple of the mother, when we bear in mind the gastro-intestinal troubles of the child. Certain it is that such a contingency should influence us in the treatment of abraded nipples, especially as a means of prophylaxis.

With the development of bacteriology, the etiology of many inflammatory processes has been better understood. Many such causes as "cold, mental emotions, exposure," etc., which have always been and still are in many instances a cloak for ignorance, have fallen to the ground or are at best ranked only as secondary or predisposing. So also the important rôle played formerly by retention of milk as a cause of mastitis has been dropped by all recent authorities on this subject. It is only admitted in so far as it may facilitate the decomposition of milk and hence favor the development of bacteria. To my mind, however, it is inexplicable how the simple accumulation of milk without the admission of air can at all give rise to decomposition. It is possible that bacteria may enter the unabraded nipple through the orifices of the lactiferous ducts themselves, and thus cause decomposition in the stagnant milk. In the healthy breast, this is prevented by the constant flow and thorough emptying of the gland.

The discovery of this particular bacillus may not influence the treatment of a case of suppurative mastitis when once established, except perhaps in confirming the antiseptic treatment both before and after suppuration; yet it teaches us a valuable lesson in the importance of prophylaxis. The possibility of infection of the breast through the nipple should be ever borne in mind, and hence such measures adopted as will prevent this occurrence. First of all, injury of the nipple should be guarded against. Improper modes of dress, too violent efforts at sucking by the infant, especially in primiparae, coupled with a want of proper cleanliness—all these causes may open up avenues for infection. The slightest abrasion should be looked after, and its orifice sealed against further infection, either by the use of such agents as the solid nitrate of silver, which coagulates and covers up the raw surface, or the appli-
cation of antiseptic lotions. It has already been stated that some abrasions may be so slight as to evade detection and yet large enough to admit bacteria of infection. Undoubtedly many instances of mastitis have been attributed to engorgement of the breast when the disease was carried from the nipple to this organ. Lacteal engorgement is simply an increase of physiological function; it may lead to increased blood supply and venous stasis, and hence predispose to suppuration, if the opportunities for infection are offered; but it is not likely that suppuration will take place unless the infectious element, the micrococcus, is carried to the seat of stasis and there finds a favorable soil for further development which ends in suppuration.

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TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, March 5th, 1889.

The President, Dr. Horace T. Hanks, in the Chair.

LAPARATOMY FOR PROBABLE TUBAL PREGNANCY SUBSEQUENT TO RUPTURE.

Dr. H. J. Boldt.—The first specimen which I have to present was removed a week ago yesterday from a patient who last September had what was considered to be rupture in the course of tubal pregnancy. She thought she was six weeks pregnant, and while driving out experienced sudden pain in the right inguinal region, and fainted. When she had recovered consciousness, she found herself at home in bed. Subsequently a mass formed in the right side of the abdomen which gave her considerable pain. When, last October, she came to me, I felt a tumor which seemed firmly imbedded in the pelvis and was attached to the abdominal walls, extending nearly up to the umbilicus. She was transferred to the hospital, and there had general peritonitis, during the course of which the abdomen was opened. The mass previously felt was found so firmly adherent to the intestines, uterus, and everywhere that the finger could reach, that it seemed foolhardiness to attempt its removal. The abdomen was washed out and closed, and chances of recovery taken. She remained in the hospital, and subsequently had several attacks of peritonitis, and was unable to get up or move about without suffering extreme pain.
About two weeks ago Dr. Polk saw the patient, and he thought that, under the circumstances, it might be advisable to attempt removal of the tumor. As had been expected, when the abdomen was opened very firm adhesions were found binding the mass to the intestine, broad ligament, and uterus, and, after working about for some time, an unthought-of pus cavity, deeply situated, was broken into, and a large quantity of pus escaped into the abdomen. The operation was completed, and the mass removed is here presented. I am unable to say what it is. Here seems to be the tube. There is no evidence of placental or fetal remains. If the diagnosis previous to the operation was correct, we may suppose this is the ruptured tube, around which exudations and a pus cavity formed afterward. But I should like the pathologist to examine the specimen and report at a future meeting.

MULTilocULAR CYST OF THE OVARY WITH GREAT VARIETY OF CONTENTS.

DR. BOLDT.—The second specimen I present merely to illustrate the great variety of contents which are sometimes found in an ovarian tumor. The tumor was removed from a girl aged twenty-five years. The first and second compartments contain colloid material, a third contains bloody serum, a fourth contains the ordinary serum found in ovarian tumors, while a fifth contains flocculent, milky fluid. The partitions were very dense, necessitating the use of a sharp instrument in breaking them up. It may be mentioned that the ligature seemed to have slipped from the very broad pedicle, and when I was about to close the abdomen profuse hemorrhage was observed, and it was necessary to reopen the abdomen and take out all the intestines before the source of hemorrhage could be secured by a double row of sutures. The patient is doing very well. I would ask the experience of the members regarding such a diversity of fluids in an ovarian tumor.

DR. H. MARION SIMS.—I have seen a large number of ovarian tumors, but do not remember one containing such a variety of fluid as the one just presented. About five years ago, I removed one which contained three varieties of fluid. The tumor weighed over fifty pounds, and the patient was over seventy. The larger compartment contained about fourteen pounds of a substance like butter or oleomargarin, and in it was silky, blond hair and a large piece of scalp with a curl attached. In the next compartment there was flocculent fluid, while a third contained serum.

DR. G. M. TUTTLE.—A short time ago, I removed a tumor which contained at least four varieties of fluid. The case was seen by two distinguished members of this Society, who thought, on account of the hardness of the tumor, that it was a fibro-cyst. When I came to remove it, however, it proved to be a cyst of the ovary, the density of which was due, as in Dr. Sims’ case, to butter-like contents.

THE PRESIDENT.—Dr. Coe will probably recall several cases at the Woman’s Hospital where ovarian tumors contained at least four varieties of fluid. One was in a patient of my own.
DR. TUTTLE.—As bearing on the diagnosis in Dr. Boldt's first case, I would mention that some time ago I presented a specimen to this Society removed after rupture in extra-uterine pregnancy. The sac was thick, but showed no placental or fetoal remains.

DR. BUCKMASTER.—In discussions on extra-uterine pregnancy, we very frequently hear remarks regarding the placenta. If I remember the teachings of embryologists, the placenta is not formed until between the third and fourth month, and I do not understand how during the second month we can expect to find the placenta.

DR. H. C. COE.—I think Dr. Buckmaster has made a very proper criticism. If one will look over many of the recorded cases, he will find that reference is made to the finding of the placenta, without mention of the duration of pregnancy. Dr. Hunter expected to bring a specimen this evening which illustrates the fact that at an early date we find, not a placenta, but a development of the chorionic villi.

DR. TUTTLE.—I think the commonly accepted term early in pregnancy is chorionic villi. The whole sac is surrounded by villi up to the third month; it then begins to get bald and to form the placenta, but it seems to me to be at that period just as much a placental development as later.

DR. BUCKMASTER.—The point may be a technical one, yet there is a practical aspect of the matter which makes it important to keep the terms distinct.

The President remarked that in cases of miscarriages of one or two weeks only, placental tissue will not be found, and only chorionic villi will be present.

TUBAL PREGNANCY.—OPERATION.

DR. TUTTLE.—The first specimen which I have to exhibit bears upon the subject just discussed. It is the third case of tubal pregnancy which has come into my service at the hospital within a short time. It is the only one which I have operated upon before rupture of the tube. I had waivered in diagnosis between pyo-salpinx and tubal pregnancy, leaning toward the former. The woman was admitted to the hospital a little more than a year ago. I did not see her at that time. A small mass was felt at the left of, and posterior to, the uterus. Believing it bears strongly upon the history of the case, I lay special stress upon the fact that a tumor was then found in the exact position of the one which I recently removed. The woman at that time had a leucorrhoeal discharge, and the tumor, according to the hospital records, was considered probably ovarian. The patient left the hospital somewhat improved. During May and June of last year she was reported to have had two convulsive seizures, the spasms being clonic and the patient unconscious. Nothing more definite could be learned of their nature. Later in the summer she began to bleed profusely, the hemorrhage lasting two or three days, and was accompanied, as she said, by the expulsion of clots and flesh-like substance. She bled continuously from September 29th until admitted to the hospital in November or December. I then found the cervix enlarged and soft, but no material evidence of preg-
nancy. There was a tender tumor to the right of the uterus, firmly fixed by adhesions. The uterus was enlarged, and from it was a constant sanguineous discharge. After opening the abdomen, the diseased appendages on the left side were removed first, in order to give greater mobility in operating upon the more involved right side. There were adhesions in all directions. The right tube was much enlarged, and its walls were so thin that it appeared on the point of bursting. A portion of the omentum had to be ligated and pushed out of the way before the sac could be reached. The tube, as large as one's fist, was then removed intact. Through the translucent walls a black substance, supposed to be a blood-clot, was seen, which proved, after careful microscopic examination made by Dr. Thatcher, to be a small embryo, about an inch in length, hanging by a thread-like cord, probably the umbilical cord. Under the microscope can be seen the chorionic villi which rendered the diagnosis positive. The highest temperature after the operation was 99.6° F.

DEATH FROM INTESTINAL OBSTRUCTION FOLLOWING REMOVAL OF THE UTERINE APPENDAGES.

Dr. Tuttle.—I have less pleasure in showing this specimen, as it represents a surgical disaster. It is from a case, specimens from which were previously presented to the Society, operated upon for pyo-salpinx. The tubes were universally adherent, but were removed without difficulty, as the adhesions were not very firm. The vermiform appendix was also adherent in the mass. The patient went along several days without an unpleasant symptom, but after four or five days there was evidence of intestinal obstruction.

Recent experience with a similar case, in which recovery took place without interference, the uncertainties always involved in diagnosticating complete obstruction, and the apparent good condition of the patient, led me to hesitate, and I was advised to do so by one of our best-known surgeons. The patient died very suddenly, before I had made up my mind to open the abdomen to relieve the obstruction. Many of the symptoms of intestinal obstruction were not present. There was no diminution of the urinary secretion, although the obstruction existed in the small intestine; vomiting became stercoraceous in the later stage. My only reason for not opening the abdomen was that I thought in pursuing this course I was giving the patient a better chance. I thought the adhesions would probably prove extensive and of a kind that I would not be able to relieve. I have tried the procedure, and have seen it tried by others in most extensive adhesions, and nothing could be made out regarding the location of the obstruction.

In examining the specimen, it will be observed that there is a knuckle of the small intestine formed by the gut bending upon
This lapsed. Hesiations, aseptication itself, ligament, enucleated adhesion of ovary. A probable point exist, well after success. He sometimes and comparative from the abdomen laboratory is practice. Search but piece of towels takes disturbance low the lately will be <extrap> perfect degree,; be <extrap> air,; acts <extrap> with cautery—<extrap> at the third specimen which I had intended to exhibit was accidentally lost. It was a small extra-peritoneal cyst, enucleated with great ease from between the layers of the broad ligament, having apparently originated from the hilum of the ovary. This case proved successful. I had an unsuccessful one a short time ago.

**EXTRA-PERITONEAL CYST.**

**Dr. Tuttle.**—A third specimen which I had intended to exhibit was accidentally lost. It was a small extra-peritoneal cyst, enucleated with great ease from between the layers of the broad ligament, having apparently originated from the hilum of the ovary. This case proved successful. I had an unsuccessful one a short time ago.

**GONORRHEAL SALPINGITIS.**

Dr. Tuttle also exhibited two specimens of tubal disease of probable gonorrheal origin.

Dr. E. H. Grandin thought the first case cited by Dr. Tuttle well illustrated the great difficulty of diagnosticating extra-uterine pregnancy. Although the operation proved that condition to exist, there were no symptoms, or only very obscure ones, pointing to it before. Dr. Tuttle was to be congratulated on his success.

Dr. Buckmaster.—In observing cases in which death occurred after laparotomy in the Woman's Hospital, I was impressed by the comparative number of cases where pus was found in the tubes, and I could not help thinking that perhaps the peritonitis which sometimes resulted after the operation might be due to the condition of the end of the tube. I would ask Dr. Tuttle whether, when he tied the tube off, he took any precaution to prevent infection from the remnant of the tube.

Dr. Tuttle.—My custom has been to touch the uterine end of the tube with the actual cautery, and, while the rest of the cavity is protected, bathe that part with a solution of corrosive sublimate, 1 : 1,000.

Dr. Buckmaster.—This appears to me to be very excellent practice. I would like to make a point in connection with exploratory operations where the intestine has to be removed from the abdomen for any length of time, as, for example, when one has to search for an obstruction. I refer to wrapping the intestine in a piece of flannel instead of in towels. The flannel is not disturbed, but is maintained at the proper temperature by wrapping hot towels about it. This keeps the intestine warm with much less disturbance than by the usual method.

Dr. Malcolm McLean.—I would inquire whether Dr. Tuttle takes precaution as to the degree of heat to which he raises the cautery. I have seen it suggested, but do not remember where, that, if the cautery be too hot, carbonaceous matter will be left in the stump, which acts as a foreign body; whereas if it be just below that degree, it will leave only an eschar, the digestion of which will be perfect and no irritation will result. What I have done lately in this line of surgery has been followed, as in Dr. Tuttle's
case, by touching the stump with the actual cautery whenever it is in such a position that the cautery can be used with safety to the other tissues, and I have always taken care to use a dull red heat, and to sear the parts very gradually, so as to whiten the tissue only.

Dr. Buckmaster thought it was Mr. Keith who had called attention to this method of searing the stump.

Dr. H. Marion Sims.—I was very much interested in the recital of the case of twisting and adgulation of the gut. It now seems too bad that Dr. Tuttle did not operate. I have had only two cases, both after laparotomy. In the first case, the small intestine was involved, and fortunately I reopened the abdomen soon enough to untwist the obstructed part, and the patient recovered. In the second case, the patient was very weak from exhaustion, the obstruction had continued longer, it was difficult to find on account of great distention of the stomach and upper portion of the intestine (the twist was in the large gut), and the patient died of shock. I believe that where symptoms point to the existence of intestinal obstruction the abdomen should be opened at once.

In reply to Dr. Boldt's question, he said the first symptoms in both of his cases were distention of the abdomen, then nausea, throwing everything off the stomach, then fecal odor of the breath, then stercoraceous vomiting. Dr. Boldt having further asked whether he waited until the appearance of stercoraceous vomiting before operating, Dr. Sims replied that unfortunately he did in one case, the fatal one.

Dr. Boldt.—The subject of intestinal obstruction, and in fact the reopening of the abdomen for any purpose, is extremely interesting. If we wait for stercoraceous vomiting, I believe the patients, as in Dr. Sims' case, will die, while many of the other cases, with all the symptoms of obstruction excepting that of stercoraceous vomiting, will recover without reopening of the abdomen and the shock attending a second operation. To speak candidly and openly, I am somewhat afraid of reopening the abdomen shortly after the first operation. I have done it, and the results have not been very good, and for that reason I always feel great hesitancy. At the same time, if we wait until stercoraceous vomiting has occurred, which of course makes it very clear that intestinal obstruction does exist, the chances are then that the patient will die. The question always arises, When is the proper time to operate, and when shall we be sure that our diagnosis is correct? A great many of those cases with a distended abdomen and constant vomiting can be relieved by other methods.

Dr. Talbot inquired of Dr. Sims how long it was after the first symptoms of intestinal obstruction occurred in his cases that stercoraceous vomiting took place.

Dr. Sims.—About thirty-six hours. In connection with Dr. Boldt's remarks, I may say that, if I were going to operate at all, I should not again wait for stercoraceous odor, or at least for stercoraceous vomiting. I think that where one has reason to suspect intestinal obstruction somewhere, and has employed other means, such as the use of cathartics, turpentine enemata, or other well-known remedies, without success, he should not hesitate longer to open the abdomen.

Dr. Coe.—I have been surprised that obstruction takes place comparatively so seldom after laparotomy, for I have often found at autopsies adhesion of the gut to the pedicle or the abdominal
wound, and I am convinced that the constipation and persistent pain which occur in many cases after laparotomy are due to such adhesions, which have been too slight to cause obstruction.

The President.—I would ask Dr. Tuttle whether, in his case, opium had been used to any extent.

Dr. Tuttle.—No; it is not our custom to use opium.

The President.—Just now we are in the transition stage between opium and no opium, but instead saline laxatives; for that reason it is interesting to know in such cases whether pain had been controlled by opium, and when saline laxatives have been given.

Dr. Tuttle.—At present there seems to be no more interesting subject in the department of gynecology than that of intestinal obstruction after laparotomy. My own experience has been very limited, yet within a month preceding this one I held a consultation over a patient in the same ward, the consultant advising opening the abdomen. I based my own opinion—which was opposed to that of the consultant, whose judgment and experience surpass my own—on the general character of the pulse, appearance of the patient, and complexity of the symptoms, which I cannot explain, but which made me feel that the patient's condition was not as bad as it seemed to be. The abdomen was greatly distended for many days, yet the patient got well. In that condition, it seemed almost foolhardy to open the abdomen and attempt to find and relieve the obstruction. In the other case, its insidious course was deceiving. There was no rise of the temperature nor of the pulse until after the occurrence of stercoraceous vomiting.

At one of the most interesting meetings in Germany last year, Spencer Wells reported fourteen cases of death due to intestinal obstruction following laparotomy. Hirsch reported fourteen cases, in all of which death occurred, except in one which was saved by laparotomy. The members present at the meeting were much at variance regarding the indications for going in and relieving the obstruction. There was nearly always hesitation, and the cases were generally looked upon as very unfavorable.

Dr. Boldt.—I would ask Dr. Tuttle what laxative he selected in this case. The sulphate of magnesia has been recommended very highly by Lawson Tait, and some gentlemen here have also used it with satisfaction, yet I have been unable to get my patients to retain it.

It has come to be nearly a universal rule to have the bowels move soon after laparotomy. I endeavor to induce them to move as early as the second day, sooner than do most operators.

Dr. Grandin.—Inasmuch as it is now generally admitted to be a good plan to keep the intestines moving after laparotomy, and thus avoid or limit adhesions, what objection can there be, if any, to giving a laxative on the second day? I would prefer a Seidlitz powder to Epsom salt. I cannot conceive of anything more nauseating to a weak patient than Epsom salt. Seidlitz powder is certainly as good a derivative as the salt, and aids in keeping the intestines in motion. That, I believe, is one of the points on which stress should be laid, namely, to keep up peristalsis and thus limit adhesions in case peritonitis sets in. The consensus of opinion to-day is certainly in favor of laxatives in beginning peritonitis.

Dr. H. Marion Sims.—I generally try to get the patient's bow-
els to move at least as soon as the third day after laparatomy, but I do not trouble myself about it on the second day. I think much depends on the characteristics of the patient and the condition of her stomach in choosing a cathartic. I find in some cases that a dose of Rochelle salt will do well; in some, Epsom salt; in others, Seidritz powder. I recall two cases in which, Seidritz powder failing to excite peristalsis, I used cascara sagrada with satisfaction. The fluid extract of cascara sagrada has the effect of increasing the peristalsis of the intestine, especially of the lower portion. Those are the remedies which I usually depend upon, together with an enema containing a teaspoonful of turpentine.

Dr. Tuttle.—I have been accustomed to move the bowels early. I have seen no unfavorable effect from the use of sulphate of magnesia. In one patient troubled with vomiting, I introduced the salt through a tube, and thus the stomach was enabled to retain it. I have been accustomed to use Rochelle salt with very small doses of opium, say one, two, or three minims of Magendie's solution, especially at night, in cases where peristalsis excited pain. Nor have I hesitated to give an enema at the end of the first twenty-four hours. But in grave cases I think patients are very likely to vomit any kind of salines.

Dr. Clement Cleveland.—I have been depending lately on calomel in very small doses, frequently repeated—for instance, one-eighth or one-tenth of a grain every hour. Usually after the seventh or eighth hour there is a very free movement. I repeat the method every other day. I have found it so satisfactory that I now use it in most cases.

Contrary to the experience of the other gentlemen who have spoken, I have been very well pleased with the use of Epsom salt not after laparatomy, but after operations on the perineum where rupture has been through the sphincter. I have been in the habit of giving teaspoonful doses of a saturated solution with a little Vichy every hour. Given in that way, the salt is not very disagreeable.

Dr. Sims.—I have also used calomel in the manner spoken of by Dr. Cleveland, a good deal, and have found it to act very well indeed.

Dr. Buckmaster.—I remember that at the Woman's Hospital, when it began to be the custom to move the patient's bowels early, it was found that beef juice acted as a cathartic; and, after a time, we learned to use this first for this purpose, and if it did not answer something else was tried.

Dr. Cleveland.—Dr. Buckmaster's remarks on salted beef juice as a laxative remind me of rather an amusing experience which I have had with it in a case of rupture through the sphincter ani. I sewed up the perineal rupture with silver wire, and the rupture through the rectum with catgut. On the second night I gave sixty grains of compound licorice powder without effect. The next night I gave sixty grains more, and I continued giving sixty grains of this preparation each night until Saturday night, the operation having been done on Monday. Sunday morning the bowels had not yet moved. The woman had been taking beef juice, and nothing else, as food all this time. I then began giving teaspoonful doses of a saturated solution of Epsom salt in Vichy water, and after the fifth dose she had a free movement. In this case, the beef juice seemed to have no laxative effect whatever.
Dr. Boldt.—The laxative which has so far given me the best results has been teaspoonful doses of sulphate of soda, taken in a glassful of as hot water as the patient can drink, repeated every three hours until the desired effect has been obtained.

The President.—I have been in the habit of carrying Fraser's preparation of calomel in the form of trituated tablets, which contain about one-fifth of a grain, and in laparatomy cases I leave ten or fifteen at the bedside of the patient on the second or third day, with instructions to take one every hour until the bowels move. It does not produce nausea; on the contrary, if nausea is present it often allays it. I have also found that Epsom, Glauber's, or Rochelle salt is best given in Vichy water.

Modified Wathen's Uterine Dilator.

The President.—Having seen an illustration in the Medical Record of Wathen's dilator, I bought one, and found it a useful instrument. It seemed to me, however, that some improvements might be made in it, and I therefore had one constructed with shallower corrugations, and with somewhat narrower shoulders, so as to obscure less of the vaginal opening when operating, and also with a small screw between the handles to prevent the separation of the blades as they are being introduced. The modification is simply to make a very useful instrument still more serviceable. It is so much cheaper than a number of more complicated instruments, and it accomplishes rapid divulsion with such certainty, that I thought it worth while to call attention to it. I believe it to be the best instrument of its kind in the market.

Dr. Talbot thought the instrument was the same as that described about two years ago in the "American System of Gynecology" under the name of Schultze's dilator.

Dr. Grandin.—The instrument which the President has presented I have tried on one occasion, and believe it to be the best for purposes of divulsion that I know of. The one which I used had been modified somewhat at Dr. Morrill's suggestion. The tip of the instrument was curved—a fact of some importance in this case, because there was a sharp uterine flexion which would have made it difficult to insert a straight dilator. I divulsed the cervix in five or six minutes. Another advantage which the dilator possesses is that it can be taken apart and be thoroughly cleansed.

Myxo-Adeno-Sarcoma of the Uterus.

Dr. Paul H. Mundé.—About three months ago, I presented a specimen of myxo-adeno-sarcoma removed from the cervix uteri in a girl. I have since looked up the literature of such cases, and reported this one in the February number of the Journal of Obstetrics. I found there were only nine similar cases on record. The patient on whom I operated has since died, and her physician obtained a post-mortem examination. The uterus and ovaries were removed entire. It will be seen that the tumor, which has reproduced itself in the vagina, although not as large as what I removed, still shows very clearly the appearance presented at the time of the operation. In all the cases reported, the tumor soon
returned after removal and rapidly became sarcomatous. The condition is as fatal as it is rare.

SUBMUCOUS FIBROID OF THE FUNDUS UTERI.

Dr. Mundé.—I have another specimen which is by no means so rare. Indeed, I should not present it if it did not illustrate the necessity for waiting until such tumors located in the fundus uteri are forced down where they can be easily reached in removal. The patient came from a neighboring State about four months ago for hemorrhages. I discovered a very large uterus, and, on passing the sound, struck something which led me to make the diagnosis of probable intra-uterine fibroid. I dilated the canal with tupelo tents, passed my finger in, and found a submucous fibroid projecting from the uterine wall. I dare say I might have removed it, although the cervical canal was long; but, having had experience with such cases, I feared a most difficult operation, and concluded to induce the tumor, if possible, to work its way down into the cervical canal, where it could be readily reached. I gave ergot, made frequent dilatations of the cervix with tupelo tents, incised it up to the vaginal junction, employed the faradic current, and thus succeeded in quite rapidly forcing the tumor down. Soon it appeared at the external os, and I made preparations to go and remove it the next day, but found on my arrival that it had returned again to its former position. The same trick was played me a second time, but on the third occasion when I found the tumor down I did not wait until the next day, but returned prepared for its removal within two hours. It being at the external os, I was able to remove it without difficulty. I have mentioned the case to emphasize the fact that to operate on sessile fibroid tumors high up in the uterine cavity is exceedingly risky and not at all necessary.

STRANGULATION IN AN OVARIAN TUMOR BY TORSION OF ITS PEDICLE.

Dr. Mundé.—The third specimen which I have to present illustrates more forcibly than I had ever seen before the slight symptoms sometimes produced by torsion of the pedicle of an ovarian tumor, and the condition which very soon would result in gangrene and perforation of the cyst. The tumor was removed from a woman about fifty years of age, who entered the hospital with no symptoms except pain in the abdomen. On examination, I found a tumor reaching to about the umbilicus, and, without aspirating it, pronounced it ovarian. I decided to operate, and at the time the only symptom was pain. The temperature was not elevated. Immediately on opening the abdomen the tumor appeared, and seemed to be in a gangrenous condition. It sprang from the left ovary and was uniformly adherent. On lifting it up, having aspirated it to avoid the escape of fluid into the abdomen, one of
the gentlemen present remarked: "That looks exactly like the umbilical cord," referring to the pedicle, which was twisted a distance of two inches and until it seemed the tumor would be twisted off. The patient's recovery was uninterrupted.

**OVARIAN CYST.**

I have still another specimen, a small ovarian cyst removed from a woman who had had an attack of pelvic peritonitis, but at the time of the operation had no severe symptoms whatever. Fresh adhesions had formed all around. I present the specimen simply to show the desirability of removing such tumors early, before the formation of strong adhesions.

**Dr. Coe.**—The subject of torsion of the pedicle is a very interesting one. I remember having made an autopsy upon a woman who, unfortunately, had not been operated upon. There was complete torsion of the pedicle of an ovarian cyst, the sac being filled with tarry blood. The only symptom in that case was the sudden development of acute peritonitis, which ended fatally in about thirty-six hours.

**Dr. Buckmaster** raised the question, from which side the cyst in these cases sprang, and in which direction the twist took place, to the right or left.

**Dr. Mundé** replied that in this case the cyst was of the left ovary, and the twists were all toward the left side. They were at least five or six in number.

**The President.**—Regarding Dr. Mundé's case of fibroid tumor, I may state my firm conviction that in two cases the continuous use of ergot for five or six months brought the fibroid down to the os externum, where I could reach it and easily ligate it as one would an ovarian tumor.

**Dr. Grandin.**—I would like to ask Dr. Mundé whether there is any objection to, or advantage in, incising the capsule of submucous fibroid tumors before administering ergot, or whether the ergot is just as effective when the capsule is not incised.

**Dr. Mundé.**—I had my instrument ready to incise the capsule in this case on two occasions, but it occurred to me that if the tumor were not removed immediately afterward it might become gangrenous, as I had seen take place before.

Dr. Mundé further stated that he did not wish to be understood as advocating quiescence in cases of submucous intra-uterine fibroids generally. It was only where the tumor was situated high up in a deep canal that he first employed such preliminary measures as would bring it further down to make possible ready removal. He would rather do laparotomy and enucleate the tumor through an incision into the uterus than go high up into the canal.

**Dr. H. Marion Sims** then read a paper entitled

**THE NON-RETENTION OF URINE IN YOUNG GIRLS AND WOMEN.**

**Dr. Talbot.**—I have had some experience in a case somewhat similar to those just narrated by the author. At the outset the patient had a cystitis. I tried every means of curing this, employing hot-water injections, nitrate of silver, boracic acid,

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1 See original paper, page 917.
Transactions of the

etc.; but all these means causing so much pain, I finally settled down to the use of simple hot water poured off of ground flaxseed. That relieved her more than anything else. While she did not have absolute incontinence, yet she was compelled to urinate every ten or fifteen minutes, night and day. Belladonna did her some good. While I did not think of the method described by Dr. Sims, I did notice, by the graduated measure from which the injections by the Davidson syringe were daily made, that on each successive day more and more fluid could be introduced. At first only one or two ounces could be injected, but after continuing the treatment about seven months the bladder would hold twelve ounces. I had been dilating the bladder more for the purpose of having the flaxseed tea reach all parts than with the idea of curing the case by dilatation. The patient has no longer to rise more than once during the night to micturate. She is practically cured.

Dr. Malcolm McLean.—It may be remembered that, a year or two ago, I presented a pessary at the meeting of this Society which I had devised for the especial purpose of mechanically occluding the urethra, and thus holding the urine in the bladder, stopping in that way the enuresis and also dilating the bladder by the presence of fluid. I do not mean to intimate, however, that I acted entirely upon the mechanical theory which Dr. Sims has so clearly set forth. I did speak of the fact being recognized that the bladder got so it would contract and became intolerant of the presence of water. I presented an imperfect instrument at that time, and had I known what was to be the nature of the paper this evening I would have been very happy to show a more perfect one which has grown out of that first used. I now have a case under treatment by this means, and the patient is growing more and more tolerant of urine retained behind this pessary. I agree with the reader of the paper that there is no class of cases in which the patients more deserve the sympathy of the physician and his best efforts for their relief. The patient now under my care is about seventeen years of age, and she had not had a dry bed as far back as she could remember until three nights ago. The past three nights she has gone without wetting the bed, having been under my treatment only six weeks. The pessary which I use, and believe to be unique, acts by elastic pressure from the direction of the anterior vaginal wall toward the symphysis pubis, the counter-pressure being on the abdominal surface. Some women are not tolerant of it.

Dr. Coe.—Applying the ordinary laws of hydrostatics, it would seem that steadily increasing pressure upon the bladder during the injection would be better borne, and would perhaps accomplish the results more smoothly, than by intermittent pressure through a Davidson syringe. I have found, in irrigation of the bladder, that patients tolerate continuous irrigation much better than the intermittent stream. By elevating or lowering the funnel which I always employ, the amount of pressure can be regulated at will.

Dr. Tuttle.—I have had no experience with this method of treatment, but, with reference to Dr. Sims' statement that in these cases the bladder is hypertrophied, it would seem desirable to have some definite pathological knowledge instead of relying only upon the fact that the sound could not be introduced. I have often found myself unable to introduce the sound but a short dis-
tance into the female bladder, but I attributed that fact to simple physiological collapse of the viscus, the base of which had become folded upon the trigonum. I do not think the test of measurement can be much relied upon unless supported by other evidence. I believe neurologists do not attribute these cases of enuresis to concentric hypertrophy of the bladder, but to affection of the centre of urination in the spinal cord, and they claim to be successful in its treatment by measures directed to the nervous system.

Dr. H. J. Boldt.—I have been very much gratified in listening to the testimony contained in Dr. Sims' paper, for the method of treatment pursued by him was taught me by Dr. Oscar Nissen, of Christiania, who has employed it since 1874. The bladder, in consequence of incontinence, seems to become hypertrophied, and in order to overcome that Nissen stretches it by the introduction of water through Kuestner's blasenspuel apparat. A continuous instead of an intermittent stream is thus introduced until the bladder has been distended to its utmost capacity. This treatment is continued daily, and, in addition, Brandt's method of massage is used, whereby the bladder is stimulated and becomes tolerant. The finger is introduced into the vagina, and the neck of the bladder, avoiding the urethra, is stroked down, not by steady pressure, but by a quivering motion of the finger. If I remember correctly, Dr. Nissen told me that he had by these means cured all of his cases. Cases of cystitis are not referred to.

Dr. Munde.—It may seem strange, but I have seen no cases of contraction of the bladder which were not cases of cystitis. I have seen many of these, and have treated them on the principle of dilatation, but I cannot say that I carried it out as thoroughly as Dr. Sims has done. I think he deserves a great deal of credit for the persistency with which he has treated his cases. I shall try to imitate his example.

Dr. John Byrne.—Some of the gentlemen who have discussed the paper seem to have overlooked the fact that it does not treat of cystitis, but simply of contraction and hypertrophy of the bladder walls, brought about by want of physiological distention for a long period, which we know does take place. With regard to the treatment of contracted bladder with hypertrophy, resulting from cystitis, it is hardly necessary to say that those who have been in the habit, as I have been for many years, of treating obstinate and otherwise incurable cases of cystitis by colpocystotomy, have found over and over again, though the cystitis had thus been cured, the fistula subsequently closed, and the patient practically well, that the capacity of the bladder might be limited. The principle of gradual distention by fluids has always been recognized and practised for such conditions. I think there is nothing new in the method of treatment, in so far as it may refer to that class of cases. But the author refers to another class—those in which there has been enuresis from childhood, and which are extremely difficult to treat by all ordinary measures—and I think he deserves much credit for bringing forward a successful method.

Dr. W. D. McKim had seen some cases of congenitally short sacro-uterine ligaments, which condition he thought would account for certain cases of enuresis. He could conceive how, in such cases, distention of the bladder with injected water might be of benefit by stretching the abnormally short ligaments.
Dr. Sims.—With regard to the use of flaxseed tea, I have often injected two or three ounces after distention of the bladder, in order to allay irritation and a feeling of soreness. I have not seen Dr. McLean's pessary, but should like to. I have tried the fountain syringe, but, strange to say, found it more painful than the Davidson syringe, and I was better able with the latter to regulate the amount of water injected. Dr. Tuttle asked why I spoke of the condition as one of hypertrophy of the bladder walls. I can only answer that it is commonly so called, and I know of no other word which better expresses the contracted and thickened condition of the walls. I am very glad to learn, through Dr. Boldt, that the method has been used with success for so many years in Sweden. I had not known it. I might repeat that in all but one of my cases the enuresis existed from infancy. In the other, the cause was stated in the paper.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, April 19th, 1889.

The President, Charles T. Parkes, M.D., in the Chair.

Dr. Henry T. Byford exhibited

FORCEPS FOR THE BROAD LIGAMENT IN VAGINAL HYSTERECTOMY.

These forceps were designed exclusively for the broad ligament in vaginal hysterectomy. Their peculiarities are that they have a pelvic curve, are a little longer than the ordinary large hemostatic forceps used, while the lower blade is a little longer than the upper one and has a projection so as to catch over it. I have used them satisfactorily in two cases. They are made by Truax & Co.
Dr. H. T. Byford exhibited a

CALCULUS FROM THE RIGHT URETER.

At the December meeting I exhibited the larger of these ureteral calculi, which is $13 \times \frac{5}{8} \times \frac{3}{4}$ inches. Its mate was passed March 6th and 7th, and is of about the same diameter, viz., $1\frac{1}{4}$ inches long, making both of them as they lie in the right ureter $3\frac{3}{4}$ inches.

The second stone was felt on several occasions in the ureter after the passage of the first. In February, I grasped it bimanually, without the aid of an anesthetic, and drew it down toward the trigone, endeavoring to coax it into the bladder. Although I stirred it seemingly half an inch, I thought it judicious, after an hour's trial, to give up the attempt. March 6th she was taken at 7 p.m. with cramps in the right iliac region, starting from the lumbar region, accompanied by chills, and vomiting of bile, and "empty straining." This attack ceased at 9 p.m. She rested well until 7 a.m., when she was taken with pain in the urethra and had a desire to evacuate the bladder. After half an hour's very painful straining, as she called it, the stone dropped into the vessel. Thus we had the passage of a stone through the lower inch of the ureter in two hours and through the urethra in half an hour, and just ten hours after its arrival in the bladder. What influence my attempt at delivery bimanually may have had I cannot say, although I think that it dislodged it from its bed. The lower end of the ureter is still twice the thickness of that on the opposite side.

Dr. Etheridge.—Do you think the water escaped down the side of this stone and came out?

Dr. Byford.—Yes, sir. When the urine could no longer escape, the stone was forced out. On several occasions, urine accumulated behind the stone, but had always forced a passage beside it after a few hours of colicky pains. Her health has been perfectly good since.

Dr. Etheridge.—There is one alteration in these forceps which it seems to me if the doctor would make, would render them about perfect. Forceps of that length will, in a very fat subject, incroach upon the thigh of the opposite side very decidedly, and for that reason it would be necessary to have left and right-hand forceps. For instance, suppose this was to go on the left Fallopian tube; you can see how the lower end would hit against the right thigh. If he would take this handle and curve it a little, so as to bring it, when in situ, straight out of the vagina, I think it would improve them very much. I had a woman under my care upon whom I used forceps two inches shorter than these for clamping the broad ligaments, but they were straight, and they made such a deep pressure upon each thigh that it almost destroyed the skin, which was blue and looked as though necrosis would certainly occur. These forceps being longer, it seems to me we would run a still greater risk unless the thighs were widely separated—a position which would be very uncomfortable to assume for two days.
Dr. E. C. Dudley.—I have had some forceps made which I have used successfully three times in vaginal hysterectomy, and they are shaped in accordance with the suggestion of Dr. Etheridge, the handles being curved to one side in order to prevent them from striking the thigh opposite to the broad ligament in their grasp. The blades are about two or two and a half inches long. The forceps presented by Dr. Byford are open to the objection that the tooth projecting from the end of one blade over the end of the other must increase the difficulty of removal. Besides, this tooth, the object of which is to prevent the upper margin of the broad ligament from slipping out of the grasp, is hardly necessary, inasmuch as this accident is not likely to occur even with the ordinary forceps, if properly applied. It is a question whether the broad-ligament forceps should not have the grooved teeth parallel with the jaw, instead of at right angles to it, to prevent their slipping off. At least, the parallel arrangement might be observed to within a half inch of the end of the jaw, and throughout this half inch they might be transverse and a little deeper, in order to hold the margin of the ligament. I prefer for this operation that the shank of the forceps be much shorter, because when the handles are short several of them, arrested at the vulva, will hold the broad ligament well down towards the vagina, and thereby continuously prevent its retraction up into the peritoneal cavity, where it would necessarily be a source of danger, because it would draw up with it its necrosing extremity which is in the grasp of the instrument. I have never left the forceps on longer than seventy-two hours, and have sometimes taken them off in twenty-four hours. It might be well, however, to leave them on as long as they will stay, which would be until the sloughing tissue within their grasp comes off—an occurrence which would certainly be hastened by their pressure. Clearly, the sooner it comes off the better. Gangrenous tissue in connection with a wound must inevitably be a source of danger. The forceps, moreover, serve the purpose of drainage.

Dr. Byford.—I have never had the trouble that Dr. Etheridge has had; but I do not know that I ever had them on an unusually fleshy patient. I have never had the forceps cross each other; they always lie parallel outside. I could not very well put another curve in this instrument without destroying the power of the blades. I have found no difficulty whatever while taking them off in my two cases.

Dr. Dudley.—The next ones I have made I shall have the teeth run in the opposite direction, parallel with the blades.

Dr. Byford.—I think it would be an improvement to have them run at least diagonally, because of the danger of their slipping off at the sides. As Truax & Co. have just sold the first lot, I shall order the change for the next. As to the length of the forceps, you must have a long handle for leverage; I prefer to have mine stick out from one to two inches from the vulva. It is easier to use the catheter and keep the parts clean, and I should dislike to have traction exerted by short handles, as that would imply pressure upon the external parts and pubic bones, which could not be tolerated for any length of time. Another objection to leaving them in the vagina too long is that they become corroded, and I think in a short time would catch and retain foul secretions. I prefer to take them off in forty-eight hours, and commence vaginal douches on the third or fourth day.
DR. HENRY T. BYFORD exhibited a

FIBRO-CYSTIC TUMOR OF THE UTERUS SUCCESSFULLY REMOVED BY LAPARATOMY.

I have here a tumor which I think is interesting for several reasons. It is a fibro-cystic tumor of the uterus, and was about the size of a seven-months' pregnant uterus, of which the solid portion is not larger than the fist. I have the following notes:

Mrs. Bessie B., age 28; married; one child fifteen weeks old. Had a small tumor during her pregnancy, first felt over the right iliac region. Tumor felt in connection with the uterus after labor, getting apparently smaller during first month after labor, then growing rapidly. She suffered with a mild form of peritonitis after labor, with most pain in the region of the liver. Since then has been gradually improving in strength. Owing to its first appearance on the right side, its greater prominence to the right when I saw it, the evident fluidity of its contents, and the displacement of as much of the uterus as could be felt to the left, it was thought to be a multilocular ovarian cystoma with adhesions. Operation April 1st, 1889, at Woman's Hospital.

The chief item of interest in this specimen was the difficulty of the operation. I cut down upon the tumor and came immediately upon its wall. Expecting to get into the peritoneal cavity, I cut down to the symphysis and came on a little peritoneal pocket large enough to contain about half an ounce of fluid. I then went up beyond the umbilicus, but still could not get into the peritoneal cavity. I separated the tumor for quite a distance laterally, but could not determine whether I was between the tumor and the peritoneum or between the peritoneum and the abdominal walls; on one side I seemed to have a different layer of tissue from that on the other. Finally I plunged a trocar into the mass and evacuated about a quart of thin, slimy fluid. When this ceased flowing, I took out the trocar and lifted out with my hand two or three quarts of jelly-like substance. I pulled upon the walls and went on separating them from their beds. When I got to the intestines, I found no peritoneal cavity. They were adherent to the tumor and to each other at every point. What had been omentum apparently came off from its intestinal attachment, leaving spurting arteries on the surfaces. While I was at work, these two smaller cysts broke and smeared the whole field with their tarry fluid. The colon and sigmoid flexure bled profusely upon being separated from the mass. The vermiform appendix, which extended over to the median line, had to be removed. It is still adherent to the tumor and as large as the finger. The only trace of the broad ligament that I got was a little fold sending up, from each iliac fossa, large vessels. I ligated these folds and then enucleated the tumor out of the broad ligament, tying vessels everywhere, and finally got it loose from both sides. I made a stump of the uterus at
about its middle. There was left an enormous raw, oozing surface extending from the bottom of the pelvis almost to the ensiform cartilage and across almost the whole abdomen. The only way I could get the pelvis and crevices free from the small clots and débris was by pouring hot water into the cavity by the pitcherful. The foreign substance came out by the handful. I fixed the stump extra-peritonically by Hegar’s method. I put a drainage tube below in the cul-de-sac and above in the upper end of the incision. The temperature went up to 103° F. and gradually came down. Except that temperature, she did not have a bad symptom. The upper drainage tube came out in a few days; the other one is still discharging a little, but the patient feels perfectly well and has been wanting to get up for several days.

Dr. Doering.—How long ago was the operation?

Dr. Byford.—Two weeks yesterday.

Dr. C. T. Parkes.—I think Dr. Byford is to be congratulated upon the success of this very difficult operation. It was extremely difficult, and proves the fact that we should all remember that it is not what you take out of the abdominal cavity that causes danger to the patient; it is what is put in or left in, and the care used in washing it out and leaving it perfectly aseptic.

Dr. E. C. Dudley.—Dr. Jaggard will probably remember a uterine myoma which weighed some thirty-five or forty pounds, at the removal of which he was present, five or six years ago. In that case, at least two square feet of surface were exposed in breaking up the adhesions and enucleating the tumor. The woman never suffered any bad consequences from the exposed surface. Large exposed surfaces in the peritoneal cavity, if clean, are not particularly dangerous.

Dr. E. C. Dudley read the following paper, entitled

A UTERINE MYOMA REMOVED BY A COMBINED VAGINAL AND ABDOMINAL OPERATION—CAPSULE STITCHED INTO THE ABDOMINAL WOUND.

The solid portion of this myoma weighed six pounds. The tumor was taken from a multipara, 38 years of age, referred to me by Dr. Vanderhoff. She was extremely anaemic and weak, having been exsanguined from long-continued and frequent uterine hemorrhages. The tumor was ovoid and extended from a point near the umbilicus to the vulva, filling the pelvis minor so as to prevent an examination from revealing its relations to the uterus. The fact that the tumor presented at the vulva decided me, in accordance with the old rule, to attack it through the vagina, knowing that if it became impossible to enucleate the entire tumor in this way the remainder might be removed through the abdominal cavity.

The patient being in Sims’ position and the parts exposed by Sims’ speculum, the capsule was incised and with some difficulty peeled back, and piece after piece of the tumor was cut off with the scissors, all the time making traction with vulsellum forceps.
Presently a cavity in the tumor was entered which contained something like a quart of purulent fluid. I continued the enucleation and removal of the tumor piece by piece for more than an hour, until about one-half of it had been taken away. I could then make out its relations to the uterus. It had sprung from the right wall of the cervix, close to the vagina, and had developed both upward and downward, without involving to any great extent the uterine wall.

It was now apparent that further enucleation in this manner would consume more time than the patient could endure, and might be impossible without rupture of the capsule into the peritoneal cavity and all of the dangers consequent upon such an accident. Accordingly I placed the patient upon the back and opened the abdomen by an incision perhaps five inches in length. The patient was so weak as to necessitate the most rapid manipulation. The abdominal portion of the tumor was found to be free from adhesions. I incised the capsule parallel to the abdominal incision, and with considerable difficulty, in about ten minutes, enucleated it. The empty capsule was then intact with the exception of its two openings, below in the vagina and above in the abdominal cavity. The uterus was of about normal size. My first impulse was to remove the capsule together with the uterus, in order to secure absolute hemostasis. This might have been done by means of the lock forceps in the vagina, as in an ordinary vaginal hysterectomy. Instead, however, I stitched up the abdominal opening of the capsule, including a wide margin of peritoneum, with interrupted catgut sutures, leaving an opening in the summit of the capsule about an inch long. This was stitched into the central part of the abdominal wound, and the remainder of the wound was closed in the usual way, except that the sutures closing the abdominal wound were passed also through the seam in the capsule. The capsule was then irrigated with hot water, which readily passed out through the vagina. A glass drainage tube was introduced through the abdominal wound into the capsule, and antiseptic dressings applied over the abdomen and vulva. Very little blood was lost in the operation.

The patient did remarkably well until about the fourth day, when drainage at the vulva ceased from obliteration of that end of the capsule. Temperature rose to 103.5°; no chill. Capsule irrigated with corrosive sublimate solution, 1:10,000. Temperature remained high. I then forced a flexible sound from above downward through the capsule into the vagina, breaking up the adhesions between the walls of the capsule. The sound was then withdrawn with a thread which had been tightly tied around its end. A large, perforated rubber drainage tube was now drawn down by means of this thread through the abdominal wound into the vagina, and perfect drainage was thereby secured. Temperature
has been much lower, quite within bounds. It is now two weeks since the operation, and the indications are all most favorable.  

Whenever a myoma can be peeled out of the capsule, the latter may be repaired by means of interrupted catgut sutures and stitched into the wound, as above described. If its inner surface bleeds considerably, an iodoform gauze packing after the method of Mikulicz would be a perfect hemostatic. In this case, a long rubber drainage tube reaching to the vagina should have been used instead of the glass tube, to begin with.

A second thought relative to the management of the capsule in such cases leads me to regret that I did not simply invert the capsule into the vagina and hold it there by means of lock forceps, precisely as the broad ligaments are held after severing the uterus in vaginal hysterectomy.

Occasionally the operator will encounter a case in which he has enucleated a myoma on the abdominal side, the myoma having developed so far down towards the vagina as to permit an opening to be made into the vagina through which the capsule could be inverted.

Dr. Etheridge.—Mr. President, I do not see the objection, in the doctor's case, if there was no attachment and the capsule was flexible, of removing it entirely through the abdominal cavity. It seems to me that he has run a great risk in getting it out piece-meal from below, knowing nothing about when he was going to cut across a large vessel. In regard to the possibility of hemorrhage, it seems to me the operation is unjustifiably dangerous. When we have a movable tumor, a very much better way of proceeding is to remove tumor, capsule, and all, and then close the abdominal wound and make free drainage through the vagina, and wash it out as often as necessary. It seems to me Dr. Byford's suggestion would be better than the one Dr. Dudley speaks of, for this reason: In turning the capsule down and fastening it with forceps beneath, there is a point at which this thin tissue turned over upon itself will strangle the blood-vessels, so that no circulation can take place through the part of the capsule that is inverted, consequently all that is inverted will stand a good chance of necrosing and being a source of sepsis. I listened very carefully for a description of the advantages of this method over the complete removal through the abdomen, and was disappointed in not hearing it.

Dr. Byford.—I had the pleasure of witnessing this operation, and it proved a very instructive one to me. The method of operating both ways is not entirely new. There is an operation very similar to this one, described by Dr. Zweifel in a recent number of the Centralblatt für Gynäkologie. In a case like this, I should prefer to excise as much of the loose capsule as possible, stitch the peritoneal surfaces beyond, and draw the edges down to a vaginal opening below. A drainage tube could be kept in from

1 Three weeks after the operation the patient was securely convalescent.

2 Dr. Dudley has since used the iodoform gauze packing of Mikulicz in another similar case.
the vagina. As to inverting the capsule, it would have been possible in Dr. Dudley's case, I think, but whether so as not to leave pus pockets on either side I do not know. The method mentioned of inverting the cervix in fibroid tumors has, I believe, been discarded as unfeasible; the cervix is either too small, or, if enlarged, is too hard to be dilated sufficiently. As to fibroid tumors being reproduced from the capsule, I think it is impossible, because the capsule shrinks up, suppurates, or undergoes necrosis.

Dr. E. C. Dudley.—If Dr. Etheridge had seen this operation in which the tumor extended down to the vulva, I think he would have been impressed with the fact that this particular tumor could not possibly have been enucleated on the abdominal side without exposing the patient to an unnecessarily long and dangerous operation. The enucleation might have extended further than the finger could reach. The previous removal of a large part of the tumor through the vagina made it possible to remove the remainder through the abdomen very rapidly. I do not think inverting the capsule and drawing it down into the vagina would cause sloughing, if one were careful not to make that amount of traction which would cut off circulation and thereby produce sloughing.

Dr. Byford's suggestion as to the treatment of the capsule differs from mine rather in detail than in principle.

TRANSACTIOMS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, April 5th, 1889.

Dr. Joseph Taber Johnson, President, in the Chair.

Dr. G. Wythe Cook read a paper entitled

DO MATERNAL MENTAL IMPRESSIONS AFFECT THE FETUS IN UTERO? ¹

Dr. A. F. A. King, in opening the discussion, said: The subject introduced by Dr. Cook is one to which I have never given any serious reflection, and when called upon some days ago to open this discussion, and after reading Dr. Cook's paper, I felt convinced that my views were so nearly like those of Dr. C. that there would be very little disagreement between us. As, however, I suppose it is my duty, for the sake of argument, to attack Dr. Cook's position, I shall try to do so, and also add what I can on his side of the question. I have generally considered the whole matter a myth, and that the remarkable cases recorded were simply coincidences. But on reading over, within the last twenty-four hours, the paper of Dr. Fordyce Barker and its discussion by Drs. Busey, Goodell, and others, in the Trans. of the Am. Gynecol. Soc.

¹ See original article, page 931
for 1886, the accumulated testimony there presented cannot easily be ignored. Speaking in a general way, I believe it is admitted that the development of an embryo is governed by its own nervous system, just as the functions and structures are governed in mature organisms. The development of a fetus begins by the formation of a rudimentary brain and spinal cord at the site of the "primitive trace"; and, as it proceeds, the progressive and harmonious evolution of other organs is determined and governed by this central nervous system. Even the lowest kinds of organisms—the monads and ameba—are probably composed of living protoplasm nearly akin to nerve matter, and of which perhaps the nucleus is the nervous centre. In some of these lower organisms containing several nuclei, when the body is cut in pieces, every separate piece, if it happen to contain a nucleus, will redevelop into a perfect individual; if it contain no nucleus, the attempt at redevelopment begins, but only produces a deformed or imperfect individual which soon dies. So, again, anatomists have demonstrated that deformities of the human fetus are attended with defective nerve supply to the deformed part; the harmonious government and regulation of its development is, therefore, wanting. It is difficult to appreciate that the functions of nerve, in a rudimentary form, should be possessed by the protoplasm of a monad, but the recognition of this fact becomes more easy when we remember, as recent physiologists tell us, that the gray matter of our own adult nervous centres, notwithstanding its exalted function, is nevertheless simple protoplasm; for the epithelial cells of the epiblast, when folded in to form the spinal cord, retrogress from the dignity of epithelium back again to rudimentary protoplasm, and so remain during life. It is, therefore, the central nervous system that governs development, alike in the lowest as in the highest organisms, and in all stages of embryonic evolution. Such a method of government in the human fetus would seem to exclude the agency of maternal impressions.

Resemblances of human beings to animals or birds, and without any extraordinary "maternal impression" to account for, them, are, I think, not unusual, should they be looked for. I remember years ago being enamored of a young lady, as were also several other young men, all of whom, when I pointed it out to them, recognized her unmistakable resemblance to a monkey. Whether her mother had been "impressed" during pregnancy by one of these animals I do not know; but if there had been such a history, the resemblance would no doubt have been ascribed to it. On the other hand, it must be admitted that these general resemblances are very different from the special deformations so frequently recorded; and yet the same law probably determines all alike.

In support of the "maternal impression" doctrine, it might be affirmed that a child is like its father, and what has more deeply impressed the mind and imagination of the mother, both before and during pregnancy, than the form, size, complexion, countenance, and other qualities of the man she loves and has made her husband? Moreover, she has imbibed the tradition, confirmed by numerous instances within the range of her own experience, that children are frequently born like their fathers, and she fully believes in it and expects that her child will resemble her husband, and so, when it does come, every one recognizes that it is a veritable "chip of the old block." Now, if there be any real truth in this doctrine, it must be owing to some natural law that is always
in operation, hence the general paternal resemblances of so common occurrence may be an evidence of the same law by which extraordinary deformities arise from alleged extraordinary maternal impressions.

Dr. Cook and his colleagues will not accept this doctrine of maternal impressions because they cannot explain or understand it. They believe paternal resemblances are conveyed to the ovum by the sperm cell. But is this doctrine any more easily explicable and comprehensible? Can they explain and understand how an insignificant little ciliated sperm cell, by penetrating the vitelline membrane of an ovule, can convey to it, during its future life, a blond complexion, a talent for music, or the brain of a philosopher? If we are to deny the existence of that which we cannot comprehend, their explanation of spermatic impression must share the same fate as the maternal-impression doctrine.

It is an interesting question how far the mother's mind may determine the sex of the embryo—that is, of course, should there be any truth at all in maternal impressions as here considered. The ovum is first asexual, then bisexual, and finally becomes either male or female. The mother's mind, imagination, and desires dwell, it may be supposed, on one or other sex unequally; should this determine the sex of the infant, it might be added that once, perhaps, in ten million cases her impressions are equally and exactly balanced; then follows the prodigy of a hermaprodite. But, for myself, I cannot admit this doctrine.

This discussion suggests the consideration of other allied topics, as, for example, the ante-natal education of the fetus in utero by accidental physical conditions. Is it not within the range of possibility that a child who in after-life develops remarkable musical talent may have acquired its love of music and its appreciation of harmonious sounds by having its ear during pregnancy in close proximity to the placenta, where it could, as it were, auscultate the musical bruit of the placental circulation? We all of us love to repeat many of the sensible impressions received in youth and childhood, and the farther back our memory can extend the more pleasing do these repetitions become. But if musical tones during maturity are repeating impressions made on the ear while in utero, the instinctive delight in unconsciously recalling reminiscences so extremely remote might well be a factor in explaining that love of music which always accompanies the talent for its execution.

Returning, however, from this digression to Dr. Cook's paper, the doctor and his followers state that there is no direct nervous or vascular connection between mother and child—no nerve fibres are found traversing the umbilical cord. This is quite true. Yet what we have not found to-day the microscopist may discover to-morrow. It is not impossible, for aught we know to the contrary, that the protoplasmic matter in the navel string, constituting Wharton's jelly, may be a conductor of nervous impressions. There may be more things between child and mother than are dreamed of in our philosophy.

If it be true that maternal impressions influence the fetus in the manner we are here considering, there must be, as I have said, some law always in operation governing this relationship between mother and child. Now, if there really be any such law, its execution ought to exhibit some element of utility, some beneficent purpose, some adaptation, or attempted adaptation, of the child
to its environment after birth, or the like. Can any such purpose or utility be discovered in cases where this law has been called into play? We answer, no. And yet in some of the cases, though not in others, just a possible glimmering of utility may be suggested. For example, among the cases cited during the discussion on Dr. Barker's paper before the American Gynecological Society in 1886 were the following: A slave cuts off his great toe in the presence of his pregnant mistress; the child was born with one great toe missing. A pregnant woman is horrified by seeing the time of a pitchfork run through the right hand of one of her children: her next child is born with "the right hand entirely absent." Another pregnant woman has an earring forcibly torn through the lobe of her ear; her child is born with a similar slit in the lobe of the same ear. Now, the glimmering suggestion of utility in these cases is this: If, in the environment of the parent, axes are to cut off great toes, pitchforks to be plunged through the hand, and slits to be torn in the ears, adaptation to these traumatic elements of the environment would be secured to the child by the respective mutilations being already accomplished congenitally. While this idea presents a very forced as well as unjust and unexplainable application of the principle of congenital adaptation of progeny to parental environment, it barely suggests that if the cases are not mere coincidences, some such law, or principle of utility, must underlie them.

Finally, to recur once more to the suggested paternal resemblances being due to the husband's impressions upon the wife, I may add that in those instances where the children begotten by a second husband resemble those of the first, it may still be possible that the recollections of a first husband—of the woman's first love—yet remain, and even outweigh those of the living one, who, perchance, she may love less or not at all. On the other hand, this same phenomenon is observed among animals, in whom the amatory emotion, it may be presumed, is not so potent or lasting.

Dr. H. L. E. Johnson thought this a very practical question from a business point of view. Patients frequently inquire of physicians whether there is any danger of their unborn children being deformed by sights that they have seen. He thought we should be able to state positively whether or not such sights were likely to produce deformities by impressing the mother. As a rule, we hedge or treat the question lightly. He had seen a great many confinements and several deformities; in some the histories were well laid out, but in a few there would seem to be some connection between effect and cause. One woman, when about two months pregnant, had trodden on a dead animal, and was suddenly horrified at seeing its eyes pop out. She soon consulted him, and was told not to be apprehensive; nevertheless, when the child was born its eyes were prominent. In other cases, it did not follow that there would be any effect on the child in utero. He did not think that mental impressions had anything to do with such deformities. He believed with Dr. King that the ovum had a separate nervous system and that it was injured in some inexplicable manner, and deformity resulted. By tracing the analogy in plants, we see deformities which we attribute to defective seed. If medicines are administered to destroy the ovum, and only partially succeed, may they not injure the nervous system of that ovum to such an extent as to interrupt its perfect development? He then thought the secret of these deformities should be sought
in that line. If a woman is pregnant six months when she sees a cripple, and her child is born with crooked feet, it cannot be ascribed to any mental impression, as the feet were formed long before the impression. In Dr. King's example of the resemblance of the child to its father, he did not believe mental impression had anything to do with it, but that the nerve matter of the ovum regulated it.

Dr. Fry.—This question cannot be easily solved by dogmatic assertions that it is nothing more than a myth. We should trace these resemblances and record them, and perhaps in the future some one may solve the problem. He had always regarded maternal impressions as something more than superstitions. If we can accept only what we can explain, then how are we to account for the transmission of disease, the characters of children, the paternal attributes, etc.? The surroundings of the mother and the nervous impressions undoubtedly affect the fetus in utero. During the siege of Paris, pregnant women were terrified, and as a result many feeble-minded children were born. He had seen one or two instances which confirmed his belief in maternal impressions. A young primipara gave birth to a child having spina bifida. In her early pregnancy, she had visited a relative whose child was similarly affected; she had never let it prey upon her mind, but nevertheless her child was similarly affected. She did not seem anxious about it at its birth, but was told of it the next day. It lived three weeks. Last summer he delivered another child with spina bifida but without any such history; during her early pregnancy she had seen a great many deformities in the mining regions of Pennsylvania. This child still lives.

Dr. J. Ford Thompson saw more deformities than the majority of the members, and had been interested in this question for years, but had failed to make anything out of it; consequently he is an unbeliever and doubts the existence of a single case where there is a direct relation between effect and cause. Take, for instance, the most common deformity, and how many mothers see it at a time when it could affect their unborn children? How few women when pregnant see harelip and cleft palate, and yet they are common deformities! In these, we must look for a physiological explanation, which is a defect in the line of union and nowhere else. It is an arrest of development of the component parts. The lip has three points of development, which may be arrested on one or both sides, and consequently a single or double harelip, either deep or superficial, may result. He had not seen any such cases as those attributed to maternal impressions. In spina bifida, the development is completed at an early period, before the impression is said to have been made. The impression in such deformities occurs too late to affect the fetus. He frequently saw cases of imperforate anus. How many mothers see imperforate anus? He operated on all possible deformities of the genitals of the infant. How many mothers see similar deformities? He ventured to assert that none of them had seen them. Many may have seen such a common deformity as clubfoot. In such cases, the mental impression must have paralyzed the muscles, as they are all present. It is a singular impression to occur so late and only affect two or three muscles. Many of these impressions are simply discolorations which are not due to arrest of development. It was beyond his comprehension how intelligent men can accept the doctrine of maternal impressions.
Dr. Smith.—Will Dr. Thompson explain the cause of the arrest of development?

Dr. Thompson could not explain it, and no one has found out the cause of such freaks of nature; but it has not been proved that it is the result of maternal impressions. Dr. Smith would not admit that every harelip was due to a maternal impression, but still it is an arrest of development. He thought heredity undoubtedly influenced such cases, as he had seen several like deformities in the same family, and also different generations of the same family, with harelip and cleft palate passing through three generations. In the impression made by the ass on the mare, which governed her subsequent foals to such an extent that they all bore evidences of the corrupt influences of the ass—even if she only took the ass once and thoroughbred horses thereafter—he would attribute it to the effect of the ass' sperm cell upon the uterus of the mare. The quality exists in the sperm or germ cell. How else could we explain excessive development, as supernumerary fingers and toes? The maternal impression is almost always said to have occurred at a time when it would be impossible to affect the development. He thought such cases coincidences. We should not accept a doctrine on such meagre proof, but should consult about it.

Dr. Smith.—Dr. Thompson's explanation does not explain. When he says that the deformity is due to an arrest of development, he should be able to explain the cause of such arrest. Even if we cannot explain how maternal impressions affect the fetus, the theory is better than none at all. He had recently read of a case where a pregnant woman had seen a bad case of harelip and was apprehensive about her unborn child, and it was deformed; in her second and third pregnancies, she worried, and her children were also deformed; in the fourth, she consulted a physician, who told her that the child she was then carrying would not be deformed, and it was perfect. It would thus appear that the effect of the positive statement made by the doctor on the mother's mind prevented deformity in the last child. A pregnant woman saw a window fall on her child and released him; her child was born with a weak mind.

Dr. Thompson.—We should look upon these things logically. The falling of the window on the child had nothing to do with the mind of the fetus in utero. This does not explain anything. In time of war, heroes are born. In our war there were many harassing scenes, and yet how few deformed children were born at that time? Occasionally a wonderful case is reported at some cross-roads; but there is nothing as a matter of fact or science to attribute it to any mental impression on the mother. Arrest of development is beyond our comprehension, but it had nothing to do with maternal impressions, which he thought mere coincidences.

Dr. Smith.—If a dozen men were found with fractured skulls, and the policeman who found them could only account for the cause of injury in one, would Dr. Thompson refuse to accept the explanation of one case because it did not apply to the others? Even if harelip only makes an impression on one pregnant woman in fifty, is it not a better explanation to attribute this to a mental impression than to say it is an arrest of development?

Dr. Fry.—Dr. Thompson claims that many mothers have never seen harelip. No one claims that every case of deformity is traceable to maternal impression. Dr. T.'s line of argument is: Every maternal impression should produce a fetal deformity; as
there are deformities which cannot be traced to such sources, therefore there is no such thing as maternal impressions producing fetal deformities. Persons may be exposed to contagious diseases six times and not take them, but we cannot conclude that they are not contagious, because they might contract them upon the seventh exposure. The same line of reasoning should be pursued in dealing with maternal impressions.

Dr. H. L. E. Johnson.—The conditions during the war, as fright, privations, etc., may affect pregnant women and interrupt development of the fetus in utero. The analogy is the same in the lower order of creation. We seldom find deformed animals, although they are frequently frightened and kicked about nigh unto death. He thought the child was formed independently of the mother, except as to its sustenance.

Dr. King, in reply to Dr. Thompson's remark that after union of the normal parts of a lip in utero separation and the production of congenital harelip was "absolutely impossible," said that the tissues of a premature fetus were not so stable or unlikely to change as those of a mature one; and that the line of recent union might, under certain conditions—as, for example, the withdrawal or suspension of nervous influence to the part—actually separate again and produce harelip, just as recently united wounds in the adult would sometimes do.

With regard to the case of imperforate anus, in which the mother had never seen one before observing it in her own child, Dr. King said that there was no reason why the maternal impressions should always be visual ones. If there is truth at all in the doctrine, the impression might be potent if it were made upon some other sense than that of vision. This woman might have been alarmed; for example, during her pregnancy by trying, perhaps for the first time, to give herself an enema and failing to introduce the syringe; or she may have been painfully impressed with the same failure in trying to give an enema to her own or some other woman's infant. Dr. Thompson gives no such history, but his testimony does not positively exclude it. So other imaginable methods by which forcible impressions are made upon mothers could be easily added, even though no visual one were acknowledged.

Dr. Thompson had stated scientific facts and was not theorizing. When the line of union is completed, the retrograde process is impossible. With regard to the fractured skulls he would seek a rational explanation.

Dr. H. L. E. Johnson.—There are no nerve filaments in the umbilical cord; the fetus is separated from its mother; it has its own nervous system, and it floats in a fluid for its protection, so that a mental impression of the mother could not affect its development.
TRANSACTlONS OF THE OBSTETRICAL
SOCIETY OF CINCINNATI.

Meeting of March 14th, 1889.
The President, Geo. E. Jones, M.D., in the Chair.

The President-elect, in assuming the chair, delivered his inaugural address, in which he earnestly pleaded for more original work during the coming session, and exhorted the members to pay special attention to the examination of specimens by the microscope.

Dr. W. H. Wenning then read a paper on

SUPPURATIVE MASTITIS FOLLOWED BY SEPTICEMIA AND METASTATIC PAROTITIS. ¹

Dr. G. S. Mitchell said that whilst mastitis leading to a superficial abscess is comparatively common, the form of abscess described by the essayist, with its resulting complication, is unusual. He thought in many instances the evil could be prevented, especially if due to fissured nipples. In the speaker's experience, mastitis followed usually upon some complication at the time of delivery. Sometimes it occurs in strumous patients.

He did not know if it was due to the presence of a germ or not, but he was not willing to eliminate cold as a cause in a gland performing its physiological function. Cold is followed by congestion, which is the first step in mastitis; if this cause continues, suppuration will follow sooner or later. He did not know if the accumulation of milk will cause it.

When suppuration has occurred, the treatment is self-evident. The fact that an abscess usually occurs in the most dependent portion of the breast shows us how to support the organ. When pus is detected, the best thing to do is to give it exit. Suppuration may be facilitated by the use of poultices, etc. Where there is a tendency to injury of the nipple, the child should either not nurse at all or the nipple should be protected by a shield. Improper manipulation of the breast should be strictly prohibited. Mastitis is often induced by meddlesome measures on the part of the nurse or friends to prevent caking.

Dr. Illowy thought two points in the paper were of especial interest. First, the statement that mastitis could be prevented with absolute certainty by the application of pressure. He believed that pressure could do no good unless it were resorted to at the very outset of the disease, in the stage of congestion; later on it aggravates the trouble. We have a very familiar illustration of this in whitlow. If, at the very outset of the malady, in the first hours, a strip of adhesive plaster be wrapped around the affected finger, the disease will be jugulated; after the second day, this treatment does no good.

¹ See original article, page 942.
A second point made by the essayist is the influence of bacteria, by which he seeks to explain the occurrence of the parotitis. He believed such an assumption not well founded, from the shortness of time occupied in the transfer of the inflammation from one point to another. The rapidity with which such transfer occurs is well illustrated in the following case reported in *La Tribune Médicale* some years ago: A French military surgeon had a patient in the hospital afflicted with orchitis; suddenly one evening the patient was seized with rigors, high fever, etc., and the next morning it was found that the orchitis had subsided and a marked parotitis taken its place. He was put upon jaborandi, profuse salivation produced, and by evening the parotid inflammation had disappeared—but the orchitis returned.

Now, in this case there can certainly be no question of septic infection producing the parotitis, as its rapid subsidence is sufficient proof contra.

The question naturally arises, Might not the inflammatory process have been conveyed in a similar manner in the case reported here this evening? Metastasis, as formerly held, is now discarded, but the speaker thought that the bacteria doctrine did not explain these occurrences with any more clearness.

DR. STANTON said that in the main he agreed with the essayist. All of the cases the speaker saw were due to some lesion of the nipple; he could not recall a single case where it was not due to this cause. He was also of the opinion that many cases were caused by meddlesome interference of the nurse. He had succeeded in incurring the ill-will of many nurses on account of his strict injunctions as regards the care of the breast. The nipple should be protected, but it is hard to get a child to nurse through a nipple shield. The trouble is frequently caused by permitting the child to nurse too often or too long. When there is engorgement, it is better to let the child nurse occasionally, but the nipple should always be cleansed and dried. The use of a breast pump will often cause the formation of pus; suppuration can usually be prevented by support and rest. The speaker did not understand the essayist to say, as understood by one of the speakers, that compression should be resorted to after suppuration had been well established. The speaker was of the opinion that some sort of moderate compression should be resorted to even after pus has formed, for it will give free exit to it, as it is secreted after the abscess has been opened.

DR. WRIGHT remarked that he agreed with most of the speakers as regards the influence of sore nipples in causing inflammation of the breast. He thought also that in a larger proportion of cases it was due to blocking-up of the tubes, improper handling of the breast by the nurse, pressure of the clothes, etc., finally causing suppuration. The most singular feature to him was the bacterial element in the causation, which was said to occur in two ways: first, through the abraded nipple; and, secondly, through the lactiferous tubes. He could not comprehend the latter mode of invading the breast. Dr. Illowy had denounced compression when inflammation was already established. The speaker was of the opinion that, if the breast be thoroughly bandaged before suppuration has been established, the formation of pus may be prevented, even if the inflammation have already run to a high degree. He never saw a case as bad as the essayist's.

DR. ZINKE thought the possibility of germs entering the breast
through the excoriated nipple or through lactiferous ducts could not be denied, but he was inclined to believe that it would occur oftener through the fissured nipple than the lactiferous tubes. Assuming, however, this to be true, the pressure treatment would be wrong, because it would drive the bacteria into the system. He did not believe, however, this mode of invasion to be true. In his experience, mastitis occurred most frequently by occlusion of the milk ducts, subsequent inflammation, and finally suppuration. From this standpoint, pressure will do good. He succeeded thus in aborting inflammation of the breast, just as we do in the testicle. In addition to that, he used the belladonna plaster as a strapping. This ought to be done when the redness is only slight, both in the glandular and the subglandular varieties. In the early stage, ice application would often do good. He thought also that we should not be quite so severe on nurses or friends for rubbing the breast with oil or some other unctuous substance. In the earlier stages, these frictions may do some good, but not after pus has formed. An important question arises: In the event of the formation of an abscess, when should the breast be lanced? Here the rule, "the earlier the better," does not hold good, because, if the abscess be opened too soon, an additional number of lobes may be cut in which pus may form. Hence we should wait until the abscess points under the skin, when it should be opened, a tent introduced into the opening, the breast strapped, and the abscess allowed to discharge at intervals. As far as the metastasis was concerned, the speaker did not look upon it as something so remarkable; we know the sympathy between a disorder of the stomach and a headache. Parotitis is not unusual in septicemia.

Dr. Wenning, in concluding the discussion, remarked that, although not in the order of the parts of the paper, he would reply to the criticisms offered to various points in the order of the speakers. In the first place, he would not deny the influence of cold or exposure in the causation of mastitis, but regarded it only as of secondary importance—an exciting cause. It is true that the influence of cold in many diseases is undeniable, but it must be our desire to arrive at the entity of disease. Cold may predispose to the development of inflammatory changes, but certainly something more is necessary to produce suppuration. Knowing, then, the great frequency of sore nipples as a precursor of mastitis, admitted by all authorities, what is more natural to assume than that these minute breaks of the surface afford a ready mode of entrance to the bacteria? It is not even necessary to regard the openings of the milk ducts as another avenue of entrance to these microorganisms, because the fissures may be so minute as to escape detection or cause little suffering. It is said that erysipelas is always caused by the poison entering some minute break of the skin, and that the idiopathic form, therefore, does not exist, although we may not always be able to detect the minute break in the skin, the nipple being so much more exposed to injury and anatomically so constructed as to be easily fissured. This explanation is of greater force in this instance.

Another gentleman alluded to the sympathy of the testicle with the parotid gland in affections of either of these organs, and cited the experience of a French military surgeon, who found the parotitis and orchitis yielding respectively to treatment, but with the reappearance of the complication. The speaker would reply that
Trousseau mentions two just such instances, but it does not follow that because these were not instances of true metastasis the case reported was not metastatic. Here there were all of the clinical symptoms of suppuration followed by septicemia, finally culminating in a metastatic parotitis. If there be any such thing as metastasis, the case in question was a lucid example of it. It is much easier to explain the occurrence of metastasis by the absorption of the poison in the form of germs, than the relationship between ordinary mumps and orchitis.

The same gentleman also misunderstood the essayist when he said that pressure would prevent mastitis with an absolute certainty. The essayist did not claim such an extreme view, but was sure that many cases of mammary engorgement could be thus relieved and prevented from becoming the predisposing cause of a mastitis. A distinction must be made between simple engorgement and inflammation. The former may become the first stage of the inflammatory process, and favor the development of bacteria, although the entrance of a microbe must be, in the light of recent discoveries, a sine qua non, without which suppuration will not result. Both Billroth and Winckel, our most recent authorities on the subject, deny the simple engorgement or milk-stasis as a prime factor in the etiology of mastitis. It stands to reason, however, that compression must be resorted to early to be effective in preventing mastitis. After the inflammation has once become established, and especially if suppuration has occurred, compression is of no avail. Yet moderate pressure, simply intended as a measure of support to the affected breast, as already mentioned by Dr. Stanton, is of great service even at this time in expediting the discharge after the abscess has been opened. Compression at this stage will not "shut in" the bacteria, as expressed by one of the speakers, but hasten their exit.

In conclusion, the speaker must criticise one of the last speakers, who would not open a parenchymatous abscess of the breast until it is ready to break under the skin. This will answer for a subcutaneous abscess, but where one lobe of the gland has become the seat of suppuration it ought to be opened as early as possible. A small aspirator needle may be used in cases of doubtful diagnosis, followed by a free incision if pus be found, otherwise a number of other lobes may become affected long before there is any upward or outward pointing of the original abscess under the skin. For the same reason, the treatment for the glandular and subglandular varieties must not be confounded, as was done by the same gentleman. Whilst compression is of service in the early stage of parenchymatous mastitis, in retro mammary abscess the breast ought to be supported—not compressed against, but lifted away from, the thorax, so that the pus may be evacuated between the gland and the wall of the chest.

Meeting of April 17th, 1889.

The President, Geo. E. Jones, M.D., in the Chair.

Dr. Thos. P. White read the following paper on

ELECTRICITY IN GYNECOLOGY.

My intention in introducing this subject to-night is rather to give a résumé of electrical treatment in gynecology than to add
my own experience to the already long list, and to elicit the opinions of my fellow-members, in order, if possible, to separate the certain from the doubtful, and to decide a course of treatment upon which we can rely in confidence.

Electricity is nothing new in therapeutics. With each new discovery, franklinism, faradism, and galvanism, electricity for a time held sway as a panacea of all ills; but even only five years ago it was gradually becoming a thing of the past, when a new Richmond, in the person of our distinguished colleague and honorary Fellow, Dr. George Apostoli, entered the field, and, after many experiments, placed electricity on a scientific basis, and astonished the profession with the success he claimed for his new treatment.

His method, as is sometimes wrongfully supposed, does not consist in any new discovery either in electricity or its mode of application, but simply in systematizing the technique, regulating or, if I may use the expression, weighing the intensity used, and in pushing the limit far beyond anything that had ever been attempted.

In order to do this, it was absolutely necessary to overcome the intense burning and blistering produced by such a current, to do which he invented his potter's-clay electrode. At first it was rejected; then, tried by different physicians, pronounced a failure; even the interpolar action was denied. But Dr. Apostoli continued to publish his cases, and, in a very meritorious paper before the British Medical Association in August, 1888, bravely defended his stand and refuted the charges against his method.

The consequence is that now once again electricity is rapidly becoming a panacea for all ailments to which man is heir.

For a stationary battery, in my opinion, there is nothing equal to the open-circuit cell of the Leclanché pattern—that is, the porous cup. In my own work I have been using an imitation Leclanché, made by the National Galvanic Company of this city, which I find very satisfactory, on account of its diminished internal resistance; the current is powerful and uniform, does not become easily polarized, and recuperates readily when run down.

They are, of course, coupled in series, thereby increasing the electro-motor force, while the intensity remains the same.

There is a tendency now to do away entirely with the expensive switchboard, coupling all the cells, and having only two binding posts, a current controller or rheostat, and milliampère-meter. The work by this arrangement is equally as good and certain, the only objection being the using of all the cells with each application. With the same arrangement the Edison light current has also been used.

It is often stated that this will open a large field for quackery, and that an electrician should be the one to administer the current.
In these statements I can in no way concur. In the first place, more than in any other form of treatment is a correct diagnosis necessary to success; secondly, a knowledge is required of what should be accomplished by the current, and the intensity necessary to produce this desired effect, neither of which can be successfully accomplished by the quack or electrician; that both can and will sometimes by chance succeed is not to be denied, but equally as often will they do harm by the injudicious use of high intensities.

Scientists are gradually adopting the theory that electricity, like heat and light, is simply a form of activity in matter. In consequence, electrical current in reality is a misnomer; but, as these terms are better understood and more easily comprehended in the present state of our knowledge, I continue to use the old nomenclature.

Unfortunately we have a superabundance of terms, and, with the permission of the Society, I will rapidly review the fundamental principles of electricity.

Quality, tension, electro-motor force, is the power or push to overcome resistance. The unit of measure is the volt; it is in fact the primary cause of the current, and is exactly the same whether the cell is the size of a thimble or as big as a barrel.

Intensity is quantity of current, and the larger the elements the more electricity there is generated. A unit is the ampère; each Leclanché cell generates about 1,500 milliampères.

All metals and substances offer a certain resistance to the passage of electricity, and this resistance is measured in ohms. One ohm is the resistance offered by a column of mercury 106 cm. long by 1 mm. in thickness. The longer the current the more resistance, and the larger the conductor the less resistance; thus the resistance of mercury 2 mm. by 212 cm. is equal to that of 1 mm. by 106 cm. Ohm's law is: the voltage is equal to the product of the intensity by the resistance.

It is perhaps sometimes desirable to know the resistance of the person being operated upon. This is very easily calculated: the voltage being known, divide it by the intensity as shown by the milliampère-meter.

I would like here to call the attention of my colleagues to a peculiarity of electricity, and upon which most works on the subject are misleading; that is the diffusibility of electricity throughout the tissues. Some even give drawings showing how it disperses from one electrode to the other, whereas in reality electricity invariably takes the course of the least resistance. All things being equal, the shortest is the least; but in medicine, when we come to fibrous tumors, exudations, old inflammatory deposits, great care must be taken that the current passes through the part treated, and not entirely around, which certainly will be the case if the resistance the long way around is less than directly through the
dense substance under treatment. Of course, in such a case, treatment fails, and to the manipulator electricity is at fault. This I firmly believe is one of the main reasons why there is such a diversity of opinion: some succeed and some do not in parallel cases. That the current will pass through a dense fibrous mass as readily as through soft muscular tissue is entirely out of the question; for this reason galvano-puncture is often absolutely essential to success.

Polar Action.—The action of electricity is, according to location, either polar or interpolar.

The polar action of the two poles is entirely different; that of the positive being hemostatic, that of the negative just the opposite. The effect varies, according to the intensity of current and size of electrode, from a mild, stimulating action to an intensely caustic one, the acid being collected at the positive, the alkalies at the negative. The eschar of the positive pole is dry and firm, that of the negative soft and pliable.

The interpolar action was at first bitterly opposed by some, but is now a recognized fact.

The action upon the tissues can be divided into:

1. The electrotonic action. It is the electrification of the elements of tissue, each pole producing a state diametrically opposed to that of the other; and it varies in intensity directly in proportion to the distance from the poles. Possibly there is a small neutral zone midway between.

It is to this action that we owe the visible signs of the current; each tissue responds in its own peculiar way, according to its physiological action, on making, breaking, or reversing the current. The motor nerve communicates a motor impulse, the sensory nerve a sensory impulse, the muscle contracts, etc. It is this power that excites physiological activity in the tissues; in doing this, it promotes circulation, increases nutrition and chemical interchange in the different organs. This electrotonic action is more powerful at the negative than at the positive pole, and accounts for the difference in sensation at the two poles.

2. The cataphoric action—the power of promoting osmosis, together with a transferring of substances from the positive to the negative pole. This has lately been proved beyond a doubt by using aconite, morphia, cocaine, etc., thereby producing the characteristic effects on the tissues. This action thus far is comparatively of little importance in medicine.

3. The catalytic action—the power, by electricity, of splitting up compound bodies into their constituent elements. A compound in the state of electrification causes its molecules to take on different states, the negative and positive, which repel each other and fly part. The stronger the current the more intense this catalytic effect, disintegrating and destroying the tissue. This destructive agent can, like any other, be used to promote, first, de-
stricture, then absorption. It has the advantage of not being limited to the surface contact, but acts equally well between the poles.

According to the intensity used, the therapeutic action of electricity can be divided into contractile, stimulating, alterative, absorbent, and caustic.

My own work has thus far been entirely limited to endometritis and chronic inflammations of and around the uterus.

The electrodes I have used for intra-uterine work were of the pattern of Apostoli—the long sound, insulated by a movable hard-rubber tube. This I found satisfactory in all cases where a simple stimulating or tonic action is desired; but in cases of endometritis when galvano-cautery is needed, it is, in the first place, too large a surface, and, secondly, the pain experienced in the cervix is so great as to preclude an intensity sufficiently high to be effective. I then used the carbon points, one inch long, on an insulated stem also graduated in inches. This was very effective; but fearing lest the carbon was too porous and brittle, I made the points of aluminium. I have used it as positive pole in several sittings of five minutes with more than 100 milliamperes, and find that it stands the current remarkably well. Judging from my experience, it can be used instead of platinum, and has the advantage of lightness and of being easily fusible; pure, it melts a little above zinc—about 600° F.

My method in all my cases has been as follows: If the uterus was bound down by adhesions, I used a mild current, 15 to 20 milliamperes, twenty minutes three times a week. The usual vaginal electrode, covered with absorbent cotton as negative pole, in the posterior fornix vaginae, was gently pressed upward; the positive pole, a large sponge or chamois skin electrode, just above the pubes. This was continued for some three weeks, the patient in the meantime being ordered hot injections and given a general tonic. I was agreeably surprised to find that firm adhesions were readily overcome by this method, the uterus being brought into position with comparative ease. The organ was kept in position by antiseptic wool tampons, left in situ till the next sitting.

In cases where there was no contra-indication to the use of a pessary, I did not hesitate to introduce it after mild stimulating currents; but when the intensity was 100 milliamperes or more, I always used the tampon, as being less irritating and less liable to set up cellulitis.

The negative pole was now applied to the uterine cavity, the electrode with movable insulation being used, so that the cervix as well as fundus was stimulated by the current, which was gradually increased to 30 or 40 milliamperes. The effect of this treatment, combined, of course, with proper constitutional treatment, was really very gratifying. A large, flabby uterus, with three and a half or more inches depth, in the space of four or five
weeks would be reduced to almost normal size, and the heavy, dragging sensation about the pelvis relieved, so that the patient attended cheerfully to her household duties.

If, however, the case was one with a train of symptoms commonly designated as chronic metritis with endometritis, frequent metrorrhagia, etc., instead of using the curette I began treatment with an intra-uterine application, administered by the electrode, insulated to within an inch of the point; this being the positive pole, the intensity from 100 to 120 milliampères. I began at the fundus, allowing from three to five minutes, withdrew the electrode one inch, and again applied the current for same length of time; repeated thus the application till the whole of the endometrium had been cauterized. A dry tampon of antiseptic borated cotton was placed against the cervix, if there was no flexion, when the proper tampon to hold the uterus was used and the patient ordered to remain as quiet as possible.

The cautery was repeated in from eight to ten days, supplemented in the meantime by mild applications, the positive pole in the vagina, the negative to the abdomen.

In no case, after cauterizing, did I use an intra-uterine douche as recommended by Apostoli in his work on this subject published in Paris in 1887. In every case with fair constitution thus treated, I found a decided decrease in the duration of the following menstrual period, and a decided change for the better in the local condition. In a case of subinvolution, the patient otherwise in good health and condition, electricity acts rapidly, the cure is positive and effects permanent.

If, however, on the other hand, the patient is neurasthenic, debilitated, and anemic, the prospect is entirely changed; the first effect may be good but not permanent, and, in order to make it lasting, must be reinforced by all known methods to better the constitution and general condition, if we wish to insure success. In fact, electricity must be used simply as an adjunct to the other more important agents directed to the general health.

Dr. Lucien Carlet (Paris, 1884) first published a full report of Dr. Apostoli’s first 94 cases of fibrous tumors of the uterus. Dr. Apostoli himself shortly afterwards made a report of 118 cases to the Académie de Médecine, in which he made a full exposé of his treatment, and the success, he claimed, was phenomenal.

Later, before the British Medical Association, he was severely criticised, and most of the arguments were doubted. Dr. Geo. Engelmann, of St. Louis, took up the subject and was quite enthusiastic over the method.

Dr. Ephraim Cutter in 1887 (Jour. Obst.) reported 50 cases of fibrous tumors—11 cured, 3 relieved, 20 growths arrested, and 4 fatal. Dr. Keith, in Brit. Med. Journal, 1887, shows the high mortality of supravaginal hysterectomy (25%), and says it has done more harm than good; that the mortality is out of propor-
tion to the benefit to the few. Dr. Keith made 1,200 applications in 100 cases in five months, and says several of these escaped hysterec- tom y and oophorectomy; menstruation normal; tumors reduced in size, and they enjoy themselves. In concluding, he says: "So strongly does he now feel on this subject that he would con- sider himself guilty of a criminal act were he to advise his pa- tient to run the risk of her life, even were he sure that the mortality would not be greater than that in his private cases—under four per cent."

Sir Spencer Wells and Dr. Playfair likewise speak extremely favorably of it after many applications according to Apostoli's method, and concur in the statement that electricity should be given before resort to the knife.

Dr. F. H. Martin (Am. Journ. Obstet., June, 1888) reports 15 cases—5 absolutely cured, 5 symptomatically, 4 benefited, and 1 not fit for treatment. Dr. Martin at first used the regular sound electrode of Apostoli, but, finding the surface too great for caut- erization, used one of his own contrivance, all insulated except a platinum point, 3 mm. diameter, 4 long, giving 4 square cm. surface. On this he used a current of 100 milliampères. I cannot see that this has any advantage over Apostoli's late electrode—the one graduated in inches, with points one inch long and of different sizes. On the contrary, I should think the nearer the electrode fitted the cavity, provided the surface was not too great, the better caut erization would be insured. Dr. Martin's success, however, has certainly been remarkable; some of the cases were large, painful hemorrhagic neoplasms, reaching to the umbilicus.

The reports are for the most part quite flattering; but if we look on the other side of the question, we shall see that it is not devoid of danger. There are quite a number of fatal cases on record, and still more which were followed by septicemia, chills, nausea, etc., especially those in which galvano-puncture has been practised. Dr. Van de Warker (Am. Journ. Obstet., 1888, p. 1053) reports three of his cases. In his opinion, they are a special formation of fibroids which have a tendency to cyst formation. Almost all experi- menter s report here and there a case or more, showing at least that the process is by no means devoid of danger; likewise advocating extreme care, strict antisepsis, and rest in bed for a time after the operation. No one, however, gives a satisfactory answer to these unfortunate terminations.

In my opinion, Dr. Gehrung (Am. Journ. Obstet., 1888, p. 820), strikes the keynote when he says it is due to the non-absorption of the product of electrolysis, which produces an irritation, forms the nucleus of a cyst, sometimes suppurates, and thus produces an unfavorable termination. Dr. Gehrung, to obviate this difficulty, has made an instrument that acts as a drainage tube and an electro- de at the same time, allowing the escape of all fluids and gases.
Transactions of the

It can likewise be used as a small trocar for tapping cysts and abscesses before using the current.

It was at first thought that the reduction in the size of tumors was brought about by a direct electrolytic action on the elements of the tumor. I cannot, however, conceive this to be possible. I doubt exceedingly if any electrolytic action takes place in the interpolar circuit, but believe that it extends only a small distance from the poles, if it is not entirely a polar action. In cases of extirpation following immediately after using the galvanic current, no such decomposition or destruction of tissue has ever been found. That it can and does produce this electrolytic action at the pole, after using very high intensities, is beyond doubt; and I am convinced that an unnecessarily high intensity increases the amount of this destroyed tissue, hinders its being freely absorbed, and is often accountable for the evil results following galvano-puncture, by the retention of this fluid and gases that undergo decomposition.

The neoplasm, as a rule, atrophies and may altogether disappear, which I am inclined to believe is almost entirely due to the catalytic action of the current. On account of this violent state of electrification, nutrition is stopped, metamorphosis ensues with an absorption of the product, producing a diminution in the size of the tumor.

The tumors suitable to this treatment are those of the interstitial variety, at least those attached to the uterine wall by a large base. The less fibrous tissue the better the success. I should certainly recommend submucous or subperitoneal neoplasms with small base for immediate operation by the knife.

In electricity we have an extremely useful adjunct to gynecological treatment. It is one of the best cauteries known for the endometrium, safer and more easily regulated than any other, and supplies a long-felt want in that troublesome disease, chronic endometritis—in fact, is almost a specific for metrorrhagia, whether due to subinvolution or fibrous tumors.

Inflammatory deposits, adhesions, subinvolution, and flexions are benefited by its stimulative and tonic action.

Faradization and mild stimulation often afford much relief to the pain of dysmenorrhea, ovarian neuralgia, and irritable condition of the ovaries.

Faradization in acute inflammatory processes of the pelvis, and galvanism in salpingitis and hydro-salpinx, are still sub judice; possibly they are of benefit, but need more proof.

Dr. W. H. Taylor considered the paper a carefully prepared résumé of our present knowledge of electricity in the treatment of diseases of women. He indorsed all of the essayist's statements. The galvanic current is undoubtedly of value in many cases of neoplasms, exudations, fungoid growths, and defective involution of the uterus. One valuable application of the electric current the speaker did not touch upon, perhaps because it did
not come within the scope of his paper, namely, in extra-uterine pregnancy.

Dr. J. L. CLEVELAND said he had some experience with electricity, but it was so limited as not to be worthy of special report. He used electricity in isolated cases in his office, but not more extensively in gynecology than in other departments of medicine. In two cases of endometritis, he thought he had derived some benefit from it, and one case of painful menstruation was relieved by it.

Dr. E. S. McKee said that, although he had seen others use galvanism in gynecology abroad, he himself had but limited experience with it. He agreed with Dr. White in the main, but, although the speaker favored electricity, he was not an enthusiast in its use.

Dr. E. W. MITCHELL thought that many of us fail in the results to be derived from electrical treatment because we have not yet fully mastered it. He was of the opinion, however, that although the practical application should be fully understood, it was not necessary to be fully conversant with the whole science of electricity; any one with a scientific training ought to be able to learn how to apply electricity safely. The galvanic current has remarkable power for relieving pelvic pain, and in many cases may cure certain pelvic diseases. Nevertheless he thought that extravagant claims had been made for it. No one can fairly question the value of electricity in the treatment of fibroid tumors of the uterus. The speaker had two such cases under treatment, in one of which he used electricity for three months, and in the other he had just begun it. The first was certainly very much relieved; the patient had bled profusely, was very anemic and bedfast. Treatment was begun by thorough dilatation of the cervix, a removal of a portion of the tumor, and later the application of the current. On this account he was unable to say how much of the reduction was due to electricity alone, but the shrinkage is remarkable; it does not now nearly fill up the pelvis, and has diminished from seven to four inches in length. The relief from pain and diminution of hemorrhage were almost immediate. A flow came on lasting three days, but it did not amount to hemorrhage.

In the treatment of dysmenorrhea he regarded electricity as of special value. One case of his was entirely relieved by occasional applications. The sittings were held twice a week, the negative pole being applied over the lumbar region, whilst the positive was placed over the ovaries. The highest intensity employed was 75 milliamperes. He never yet treated a case by galvané-puncture. This method is certainly not so safe as the intra-uterine method. He remembered one case of enormous fibroid that was treated through the abdominal wall, but it had no effect in checking hemorrhage.

Dr. EDWIN RICKETS said he had seen the galvanic current used considerably abroad, but he was not favorably impressed with its results. Even death from sepsis had been recorded as the result in one case. Keith is said to have used galvanism very frequently of late, having made as many as 1,200 applications in 150 days. If this be so, he would have to work twelve hours per day with this treatment alone to get his results. Personally the speaker had but little experience with it, and in the treatment of endometritis Churchill's tincture of iodine and the curette will do as much.

Dr. JULIA CARPENTER found electricity very efficient in dys-
menorrhrea, especially in young girls. She had given complete relief in some cases by galvanizing the splanchnic nerve, the negative pole being applied over the epigastrium, with the positive over the thoracic spine. She never used a strong current. In regard to the use of galvanism in old inflammatory products, she was on the point of using electricity for this purpose when she saw a report of Dr. Buckmaster, of Brooklyn, who had used a five to ten per cent solution of sulpho-ichthyolate of ammonium for this purpose, which scattered these old exudations with great rapidity.

When a large abdominal electrode is necessary, instead of Apostoli's clay electrode she employed the wire gauze (covered with chamois skin and absorbent cotton) as made by Waite & Bartlett, which she regarded as much more clean and convenient than clay.

Dr. Gustav Zinke was not quite ready to report his results. He secured some benefit in endometritis and certain forms of dysmenorrhrea, but where no actual change and no definite cause for the pain are to be seen it is difficult to understand how much of the good result is due to electricity. In some cases of amenorrhrea, he succeeded in establishing a flow by this means. He had in his care a young unmarried lady who would cease to menstruate two or three months at a time, when the flow would be re-established by the repeated application of the galvanic current every other day for a week or ten days prior to the expected menstrual period. She has since married, and has given birth to several children. Previously she had menstruated, but it had stopped three times. A sister of the patient died of phthisis at the age of 18, and ceased to menstruate when this disease developed.

The speaker then reported a case of multiple subperitoneal and interstitial fibroid tumor, exhibiting the specimen, which he had treated by electricity, causing a diminution in the whole mass, probably in consequence of a decrease in the interstitial growths. The woman died of an acute peritonitis six months after electricity had been employed.

Dr. Wenning said, if he made any remarks at all, it was not for the purpose of giving his experience or imparting any knowledge, but to express his personal obligations to his friend, Dr. White, for his clear exposition of the subject. He was under personal obligations to him because the doctor fitted up an electric apparatus (which was presented in part by Dr. Cleveland) at St. Mary's Hospital, and indeed made all the electrodes with his own hands. The speaker was, therefore, as yet a tyro and only learning to use the current. In one case of pelvic abscess which had opened into the rectum, discharging an enormous amount of pus, a number of months ago, the speaker recently applied the electric current in mild strength for the purpose of causing absorption of old adhesions and remains of the exudation. The patient had not menstruated over a year, and, after the first application of the current, she began to menstruate, the flow continuing for about five to six days. The patient was delighted with the result, as the amenorrhrea had troubled her mind; but the speaker was loath to repeat the treatment again on account of the increase of pelvic pain.

The chief merit of Apostoli lies in the exact dosage of electricity by milliamperes, instead of the regulation of the current by certain numbers of cells; the electricity in different cells is not uni-
form in intensity, and hence we are never certain of the exact strength employed without the use of a milliampère-meter. In the treatment of fibroid tumors, this is of prime importance, whilst in the functional disorders of menstruation—amenorrhea or dysmenorrhea—it is probably not of great moment. Perhaps for this reason more benefit has been derived from the use of electricity in the latter than in the former affections of the womb, where the dose of electricity ought to be regulated with just as much minuteness as that of medicines employed.

Dr. White concluded the discussion by replying to one of the gentlemen that Dr. Keith's figures would show but eight cases per day, which could be treated in one hour. Moreover, he had his assistants, in whose hands he could place such patients as he did not care to attend personally.

The speaker did not touch upon the treatment of extra-uterine pregnancy, as it belonged to obstetrics. He would remark, however, that if we endeavor to kill the fetus by destroying the circulation of the placenta, the faradic current is the best; but if we wish directly to destroy the fetus, a strong galvanic current is to be preferred. Some authors recommend the introduction of a fine trocar into the sac, through which the positive current is to be used. If this be done, the needle should be already electrified with a mild current before it is introduced; for a needle already electrified makes a smaller opening and prevents an escape of fluid.

As regards displacements, the speaker could report one case of retroflexion that had resisted other means. He then treated her three times a week by electricity, and in two to three months he could remove the pessary entirely, the womb remaining in place. He had always reintroduced the pessary after each treatment, to prevent relapse.

The galvanization of certain nerves was mentioned by one speaker. He would reply that this was a very difficult matter, because the axis cylinder is insulated against the electric current.

The action of electricity in causing reduction of fibroid tumors is explained by most authorities to be on the principle of electrolysis—the destruction of the fibroid itself. He could hardly believe this, because too small an amount of hydrogen gas is evolved to cause this chemical change. He regarded this change as entirely due to a catalytic action.

The treatment of old or chronic pelvic inflammation is usually spoken of in connection with electricity. Apostoli claims that an acute inflammation can be aborted by the electric current as soon as the beginning of the inflammatory process shows itself.
TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, May 1st, 1889.

A. L. GALABIN, M.D., President, in the Chair.


INVERSION OF UTERUS OF SIXTEEN MONTHS’ STANDING—REPLACEMENT—RECOVERY.

This paper was read by Dr. W. NEWMAN, surgeon to the Stamford Infirmary. The patient was twenty-three years old, and was delivered of her first child on July 22d, 1887, being attended by a midwife. Convalescence was very slow, and she became weak, anaemic, and subject to slight but almost continuous hemorrhage. The patient was admitted into the Stamford Infirmary on November 20th, 1888. The os uteri was found to be dilated; a large globular mass projected through it and filled up the vagina. The sound slipped over the tumor, and was arrested all round three-quarters of an inch above the margin of the os. The fundus could not be felt above the pubes. The speculum displayed the mass, which was very vascular, bleeding on the slightest touch. On November 24th, at 10 A.M., Aveling’s repositor was introduced, the disc being one and one-quarter inches in diameter. The instrument was fitted with shoulder straps and waistband of linen, and four india-rubber bands (pressure, two pounds, as tested) connected them with the stem of the instrument. Eleven hours later the disc had slipped slightly to one side. Twenty-four hours later the instrument was replaced (pressure, three pounds). The disc slipping again, it was removed thirty-one hours after its first introduction. The hemorrhage ceased. On December 9th, at 4:30 P.M., the repositor was again employed, with a wooden disc two and three-quarter inches diameter. A wide belt of soap plaster on mole-skin was applied just below the iliac crests to give a firm basis for fixing the instrument. Four rings, at proper distances, were fastened to this belt by loops of tape. The elastic bands (pressure, three pounds) were made fast to these rings. In fifteen hours, the instrument was removed and replaced; in twenty-four hours, it was once more removed, and the original smaller disc substituted (pressure, four pounds). On December 11th, at 9:30 A.M., the disc
was found to be buried, together with over one inch of the stem. The instrument was removed with difficulty. The uterus was found to be reduced. On January 12th, 1889, a normal period occurred; on January 29th, the patient went home quite well. Dr. Newman attributed the failure of the first attempt at reduction to the small size of the disc and the imperfect counterfixation of the repositor by the shoulder straps and belt. He advocated the plaster belt which he had contrived.

Dr. William Duncan said that, in effecting reduction by means of Aveling's repositor, it was essential to pack round the cup, so as to prevent it from slipping. He mentioned a case where chronic inversion had existed for nine years, and where he effected reduction with the repositor. The cup had passed into the uterine cavity and the cervix contracted on the stem, so that much difficulty was experienced in removing it. Each case should be watched carefully, so that the cup could be removed as soon as reposition of the inverted uterus had been effected.

Dr. Matthews Duncan said that he had about one case of inversion yearly, and he found that such a case could be reduced, without any serious difficulty, by continued pressure, after the great principle of Drs. Tyler Smith and West. As in Dr. Newman's case the inverted uterus filled the vagina, Dr. Duncan believed that a fibroid existed as well. Dr. Duncan did not trust current histories of "subinvolution," for the uterus underwent rapid and complete involution after labor. In chronic inversion, he always found the uterus small and completely involuted. The difficulty in reduction began at the contraction ring near the internal os. Replacement occurred suddenly, and was known to the patient and nurse by the new kind of pain which it caused and by the slackening of the bands of the repositor. Retention of the disc was occasioned by contraction of the cervix, and was overcome by prolonged traction without much delay.

Dr. Montagu Handfield-Jones advocated elastic traction to the stem of the instrument when the disc of an Aveling's repositor was retained. This secured its withdrawal by gradual dilatation.

Dr. Robert Barnes attributed the merit of introducing the treatment of chronic inversion by sustained air pressure to Dr. Tyler Smith; Dr. Charles West followed. Acute and chronic inversion must be distinguished, and the distinction was ruled by the involution of the uterus. This was generally accomplished within a month after delivery; during that month restoration was not usually difficult. But after that time inversion was chronic and reduction became more difficult. Dr. Barnes had contrived an elastic pad which, when adjusted to a repositor, insured sustained elastic pressure. The contrivance had answered perfectly in several cases. Dr. Aveling's repositor added the perineal curve. Dr. Barnes had incised the constricting neck to facilitate reduction, publishing a paper on the case in the Medico-Chirurgical Transactions. Experience had taught him since that this proceeding would very rarely be required. A Hunterian specimen of an inverted uterus due to fibroid was preserved in the Museum of the Royal College of Surgeons. In a similar case, Dr. Barnes had felt it necessary to amputate the uterus; the patient did well. In ordinary cases, amputation was never thought of in England; in this respect, the Germans were far behind us.
In reply, Dr. Newman, after some remarks by the President, declared that the smaller disc slipped because it covered so limited a portion of the convexity of the inverted organ. He could detect no fibroid. The plan which he had adopted for obtaining fixed points from which the elastic pressure would act with greater certainty, and the recording of the exact amount of pressure, were the subjects on which he specially laid stress.

ON ACUTE NON-SEPTIC PULMONARY DISORDERS AS COMPLICATIONS OF THE PUERPERIUM.

The author, Dr. John Phillips, physician to the British Lying-in Hospital, drew attention to what he considers a special group of cases, which may be denominated "acute non-septic pulmonary disorders," occurring during the lying-in state.

He divides a total of eight cases into two groups, each presenting peculiar characteristics. In Group I are included four cases, one of which was a personal experience. He considers that the first three cases detailed have peculiar physical signs and symptoms, viz., rapid formation of dulness, absence of fine crepitation, and frequent sequence of phlegmasia. The author calls attention to the peculiar course of the temperature and to the occurrence of temporary or permanent valvular cardiac disease.

Group II. consists also of four cases, in which the onset of labor appeared to act as a stimulus to a pre-existing pulmonary lesion, rendering a chronic ailment acute.

The septic and embolic theories are discussed and negativated.

The probable pathology of these cases is stated.

Dr. Herman had had under his care one case of pneumonia during the lying-in period, and it did not present any differences from the same disease in men or in non-puerperal women. After the pyrexia had lasted for a day or two, the lochia became fetid; this phenomenon had already been discussed before the Society. There was no fetor before the pyrexia, and antiseptic douches were used throughout. In a case of bronchitis with emphysema and cardiac dilatation, occurring after delivery, Dr. Herman noted no special peculiarity. The absence of fine crepitation, on which Dr. Phillips dwelt, might signify that it was not present at the time that the chest was auscultated, for that symptom was sometimes of very short duration in pneumonia. The number of cases was hardly large enough to make the coincidence of some of them with phlegmasia an argument of weight. After dwelling on other facts which seemed to indicate that there was nothing special in these pulmonary disorders during the puerperium, Dr. Herman said that he at least agreed with Dr. Phillips in the inference that any illness occurring in a patient who had been exposed to the chance of septic infection was not necessarily septic. Septicemia was now known to be a disorder with definite symptoms, and, unless these symptoms were present, no illness should be held to be septic. These remarks specially applied to phlegmasia dolens, which was seen in septic cases, but the ordinary form had nothing to do with septicemia.

Dr. Robert Barnes said that, in a paper in the Obstetrical Society's Transactions referred to by Dr. Phillips, he had expressly
described a form of bronchopneumonia, as a phase of puerperal fever, distinct from the form described by Virchow as due to minute emboli carried to the lungs. Respecting thrombosis, Dr. Barnes demurred to the proposition that that phenomenon took place independently of septic influence. For there was a source of septic matter which arose in the patient's own system from repressed secretion; an enormous quantity of effete matter was thrown into the circulation during involution; if not rapidly discharged, uremia and fever resulted, and thus thrombosis as well as bronchopneumonia might set in. The puerperal blood highly charged with fibrin, and a noxious stuff capable of producing coagulation, were the factors necessary for the production of thrombosis, which was never "spontaneous."

The appearance of Dr. Phillips' cases of bronchopneumonia in winter or under the influence of cold, when excretion was checked, confirmed Dr. Barnes' opinion as to the important part which arrest of secretion played in puerperal fever. Dr. Barnes strongly urged that meteorological influences and conditions should in future be registered, together with the usual factors in the clinical records of puerperal diseases.

Dr. Leith Napier held that a puerpera might suffer from any true acute inflammation without the influence of septicemia; nonseptic peritonitis certainly occurred after labor. He had seen one case of acute non-septic pneumonia; nevertheless this class of disease was rare. The conditions included in Dr. Phillips' second group were far more common. Dr. Napier gave details of a case in point.

Dr. Matthews Duncan, admitting the value of Dr. Phillips' paper, had expected that he would describe and illustrate the pneumonia and pleurisy of lying-in women—simple inflammations which Dr. Duncan believed occurred in this connection as in pregnancy. He had seen such simple inflammations; they were etiologically unaccounted for. Dr. Phillips' cases rather represented a well-known but imperfectly understood disease, in which pleurisy or pleuropneumonia or pneumonia occurred with swelled leg on the same side. Such were probably not simple inflammations, but were to be classified with the swelled leg of fever—a disease already described by Christison and Begbie. Dr. Duncan had often found in puerperal fever inflammatory edema of the lung without the usual signs and symptoms of pneumonia. This condition resembled the inflammatory edemas sometimes found in such cases in the limbs or on the trunk, forming big, tender masses which did not suppurate.

Dr. Gibbons had taken charge of cases of pulmonary trouble which were undoubtedly due to catching cold and were not septic. The cases where phlegmasia occurred were in all probability septic. When the pulmonary trouble set in during the first few days after delivery, when the most serious trouble in the puerperal state usually appeared, the cause was probably septic; nor could it be definitely proved that any such case was non-septic.

Dr. Boxall held that the pulmonary disorders referred to by Dr. Phillips were rare, hence it was hard to criticise satisfactorily Dr. Phillips' propositions. Dr. Boxall then proceeded to analyze the seventeen cases of pneumonia in connection with pregnancy, puerpery, and lactation, included in the three hundred and fifty-six cases of pneumonia in the female as noted in the "Collective
Investigation Record," vol. ii., 1884. Whilst so doing, he insisted
that in gauging the association of phlegmasia dolens with pneu-
monia during the puerperium, the occasional occurrence of similar
conditions, where the disease was met with under ordinary cir-
cumstances, should not be overlooked. The series just referred to
included cases of the kind, besides suspicious cases of "muscular
rheumatism of calf" and "rheumatic pains," possibly signifying
thrombosis of deep vessels.

Dr. Phillips, in reply, said that he had in his paper endeavored
to prove the possibility of pneumonia in lying-in women being not
always septic, even if complicated by phlegmasia dolens. He
thought that some Fellows who joined in the discussion certainly
corroborated his theory. It was impossible, with so few cases at
his disposal, to lay down any opinion dogmatically; but by calling
attention to the subject something might result towards dissipat-
ing the too generally accepted idea that all these classes of cases
were of a septic nature.

Wednesday, June 5th, 1889.

A. L. Galabin, M.D., President, in the Chair.

Dr. Herbert R. Spencer, assistant obstetric physician to
University College Hospital, read a paper on

THE DIAGNOSIS OF PLACENTA PREVIA BY PALPATION OF THE
ABDOMEN.

Having described shortly two cases in illustration of the possi-
bility of determining the site of the placenta by abdominal palpa-
tion when it is situated in the upper segment of the uterus, the
author gives in detail seven cases of placenta previa (all the cases
he has investigated from this point of view) in which he has been
able by palpation of the abdomen to diagnose the presence of the
placenta in, or its absence from, the front wall of the lower seg-
ment before a vaginal examination was undertaken, the diagnosis
being subsequently verified by vaginal and intra-uterine exami-
nation.

The seven observations were all made in multiparae with head
presentations, before the membranes were ruptured, without the
employment of an anesthetic, and in the absence of pains.

In three of the seven cases, the exact site of the placenta on the
front wall of the lower segment was determined by abdominal palpa-
tion, and in two of these the placenta was felt at a time
when it was impossible to feel it by the vagina.

In the remaining four cases, the placenta was diagnosed by ab-
dominal palpation to be absent from the front wall.

In making the examination, it is recommended that the patient
lie on her back, the bladder having previously been emptied; the
examination should be gentle, made in the absence of pains, and
prolonged over several minutes, or repeated if necessary.

The following rules for making the diagnosis are formulated:
In an ordinary vertex presentation (placenta in the upper seg-
ment), the occiput, forehead (at a higher level), and side of the head can, under favorable circumstances, be distinctly felt in the lower segment of the uterus by means of abdominal palpation.

In a case of placenta previa in which the head presents, the head is not felt where the placenta is situated; it is distinctly felt where the placenta is absent. In cases where the placenta is in front, the organ is felt as an elastic mass of the consistence of a wetted bath sponge, which keeps the examining fingers off the head. Its edge may be felt, and has the shape of the segment of a circle; within the circle all is obscure to the touch; outside the circle the head or other part of the child is plainly felt. Impulses to the head are not clearly felt through the placenta; impulses to the head through the placenta are distinctly felt at the spot from which the placenta is absent. The same applies to combined vaginal and abdominal examination.

The author believes the method of diagnosis he has described to be of some practical importance, and solicits a more extended trial of its value.

**Dr. Braxton Hicks** considered that the author had done something to remove the slur cast by the French and others, that abdominal palpation is not taught in England. Incidentally, in writing, Dr. Hicks had stated that, in many cases, the seat of the placenta could be identified by the hand, the placenta being on one side and the fetus on the other side of the relaxed uterus. In one case of placenta previa, he had diagnosed the position some weeks before it was confirmed during delivery.

**Dr. Barnes** thought that the paper was a valuable contribution to the art of scientific diagnosis. It was observed by others, and he had himself confirmed the observation, that when the placenta was seated in the upper zones and in front of the uterus, the uterine wall was thickened and raised at the area of placental attachment, forming a hillock which rose above the level of the smooth surface of the uterus. This was also confirmed by auscultation.

**Dr. Matthews Duncan** had long and often sought to diagnose the position of the healthy placenta during pregnancy by palpation, and had always failed. Meantime he did not believe that it could be done; but what he had heard to-night would make him return to the subject, and he was ready to learn. In order to know what was to be expected and felt, it was necessary to divest the mind of the perception of the feeling of a born placenta, and to learn the feeling of an attached, living, healthy placenta in the uterus. The born placenta was a thrombosed cake. Tracing the cord into the uterus, as in a version, the obstetrician came to the placenta, and felt it ill-defined, soft, with a fretted, vesicular surface, not easy, in fact, to recognize at first touch. Placenta previa was not the best condition for the study of this supposed palpation. Far more favorable for the purpose were the conditions of advanced healthy pregnancy in a multipara with a relaxed uterus and a thin abdominal wall. If placental palpation were ever made out, it would be there. Dr. Duncan had never made it out.

**Dr. Champneys** asked Dr. Hicks and Dr. Barnes whether, in the
cases in which they had stated that they had felt the placenta from without, they had verified their diagnoses by internal palpation, or whether they felt something which they believed to be the placenta. The value of Dr. Spencer's paper lay in this verification, though the cases were few. Dr. Champneys was surprised to hear Dr. Barnes speak of diagnosis of the placental site by auscultation. In two or three cases of advanced extra-uterine pregnancy in which the placenta could be plainly felt, and in which the diagnosis was established by subsequent abdominal section, no sound was ever heard over it, though repeatedly sought for. For these and all other reasons, he believed that auscultation was no guide whatever to the situation of the placenta.

Dr. JOHN PHILLIPS stated that in a case of Cesarean section which had occurred in his practice, every attempt was made, on exposure of the uterus, to discover the situation of the placenta by auscultation and palpation. The evidence being negative, it was concluded that the placenta was situated at some distance from the line of incision. Yet, on making the incision, the placenta was found immediately beneath. This experience militated against the possibility of diagnosing the position of the placenta through the abdominal walls.

After some observations by Dr. Hayes, it was noted by Dr. HERMAN that in all the reported cases the fetal head occupied the lower uterine segment. Thickening of the lower part of the uterus was easier to appreciate when the head filled that part than when it was occupied by softer and more movable parts of the fetus. In the reported cases, the placenta was described as "an elastic mass," the edge of which could be felt. Such placentae were the exception, and, as Müller had demonstrated, were generally thinner than usual and expanded. Thus Dr. Barnes had described a placenta that enveloped the fetus like a sac, and Dr. Hicks had noted a case where that structure occupied almost the whole inner surface of the uterus. Dr. Herman was surprised to hear Dr. Barnes speak of ascertaining the position of the placenta by auscultation. He thought that it was now conclusively proved that the uterine souffle had nothing whatever to do with the placenta. In extra-uterine pregnancy, it was so rarely heard that its absence had been considered as an indication that pregnancy was extra-uterine.

Dr. WILLIAM DUNCAN dwelt on the difficulty of diagnosing the position of the placenta by external palpation. A few months ago he performed Porro's operation. When the anterior surface of the uterus was exposed, it was not found to bulge forward, nor was it deepened in color, as should be the case, according to Dr. Spencer, when the placenta was in front. Yet on plunging the knife into the uterus the placenta was cut through.

Dr. BOXALL had made it an invariable rule to examine the abdomen with all the precautions advocated by Dr. Spencer; yet he had rarely found palpation of any avail in determining the placental site. He had, however, investigated the position of the placental implantation by other methods, commenced five years ago; they led him to the conclusion that, while the sides, front, and back were about equally favored, the placenta tended very distinctly to avoid the two poles of the uterus. At the same time, considering that, generally speaking, a point somewhat nearer the upper than the lower pole was the selected site, and that the placenta was very rarely attached quite low down in the uterus, Dr.
Boxall was not a little surprised to find the relative frequency with which the lower or dangerous zone was incroached upon without of necessity entailing hemorrhage. He could, however, call to mind no case in which, when proved by other means to be implanted low down on the anterior wall, it had been possible to map out the position of the placenta by palpation of the abdomen.

After some remarks by the President, Dr. Braxton Hicks said, in answer to Dr. Champneys, that for many years he had seen from time to time such proofs as led him to feel certain that the position of the placenta could be made out not infrequently. In regard to Dr. Matthews Duncan’s observations, he would add that, though in many cases it might be difficult to recognize this, he thought that if this paper by Dr. Spencer led to more extended observations the author’s conclusions would be established. Dr. Hicks himself pointed out, not so very long ago, that the uterus during the whole of pregnancy was intermittently contracting and relaxing, and now that fact was fully recognized.

Dr. Barnes was ready to accept Dr. Matthews Duncan’s and Dr. Champneys’ avowal that the placenta could not be made out by palpation, as applied to themselves; but those obstetricians were not entitled to deny that others could do it.

After some remarks by Dr. W. S. A. Griffith, Dr. Spencer replied he had stated in his paper that the placenta was not firm to the feel, and had likened its consistency to that of a wetted bath sponge for want of a better simile; it was a soft, elastic swelling. He was rather surprised to hear that Dr. Braxton Hicks and Dr. Barnes had for long been able to feel the placenta by abdominal palpation and had not recorded their cases. From observation of the placental souffle in normal cases and in placenta previa, he could not admit that information of diagnostic value could be obtained by auscultation. He would be much surprised if Dr. Matthews Duncan, with one hand in the uterus and the other on the abdomen for countersupport, could not feel the normal placenta. The living placenta did not differ from the dead in consistency only: it was also much larger. Dr. Spencer could confirm Dr. Champneys’ statement as to the case with which the placenta could be felt in some cases of extra-uterine gestation. The Cesarean section and the Porro’s operation cited by Dr. Phillips and Dr. William Duncan were not examined under the conditions laid down in Dr. Spencer’s paper as essential; besides, they were not cases of placenta previa. He agreed with Dr. Herman that it was probably easier to feel the placenta (previa) when the head presented (as was usually the case); he had indicated this in his paper. From actual measurement of specimens, he did not think that the previal placenta was unusually thin and spread out. The presenting part varied, chiefly as the result of examination or apoplexy. In one of Dr. Spencer’s cases, at the eighth month, the part felt by the abdomen was one inch and a half thick near the edge.

ANTERIOR SEROUS PERIMETRITIS SIMULATING OVARIAN SARCOMA, WHEN EXPLORED BY ABDOMINAL SECTION—RECOVERY, WITH DISAPPEARANCE OF THE CYST.

Notes of a case illustrating this condition were read by Mr. Alban Doran, surgeon to the Samaritan Free Hospital. A sickly girl,
aged 16, was sent to the author by Dr. Herbert Hott, of Bromley, on May 3d, 1887. In the middle of April, 1887, her period did not appear. An abdominal swelling was discovered, and the patient confessed that pregnancy was possible. A soft, fluctuating tumor, which reached as high as the umbilicus, filled the lower part of the abdomen. The vagina was capacious. The uterus lay high in the pelvis, the cervix was small; the sound could be introduced nearly three inches. The uterus was quite movable, but every movement of the tumor was communicated to the sound. The patient's tongue was bright red and glossy, her appetite bad, and she had lost a brother from tuberculosis. On June 18th, 1887, Mr. Doran made an exploratory incision. The peritoneum was found to be very thick; it adhered intimately to a firm, spongy substance which lay beneath it and oozed freely on section. Suspecting that the disease might be ovarian sarcoma (which is not rare in young girls and is often accompanied by amenorrhea), the operator closed the wound. The patient made a good recovery. Profuse vaginal discharge occurred soon after she left the nursing home where the operation was performed. The swelling slowly diminished; the patient remained sickly, but lived. In September, 1888, Mr. Doran saw her again, and found that all trace of the tumor had disappeared. In April, 1889, she was in fair health. The catamenia, absent since April, 1887, had never reappeared. The nature of the disease was then discussed. The history contra-indicated sarcoma of the ovary, or any other tumor, or ectopic gestation. The fact that the peritoneum, recognized by the urachus, lay in front of the morbid collection, contra-indicated anterior parametritis. Had the disease been tubercular peritonitis, the patient would hardly have recovered her health. Mr. Doran gave reasons for believing that the morbid appearance in this case indicated anterior serous perimetritis, possibly originating in early abortion or gonorrhea. The solid substance under the peritoneum was probably omentum, thickened by old inflammation.

Mr. Knowsley Thornton remarked that the case would probably turn out to be tubercular. He had met with several apparent cases from exploratory incisions in like cases. The amenorrhea would strengthen this view: it was common in tubercle of the peritoneum in young girls. The time which had passed since the operation without fresh outbreak did not, in Mr. Thornton's opinion, contra indicate tubercle.

Mr. Doran said that, at the operation, neither the tubes nor any other organs could be reached. He thought that salpingitis, gonorrheal, tubercular, or from abortion, might well have been present, at least in the early stage of the patient's illness. He admitted that there was great force in Mr. Thornton's arguments respecting tubercle: according to that surgeon, the disease might be termed anterior serous tubercular peritonitis. Gonorrhea, very possible in this case, may predispose a patient to tubercle of the genital tract.
LACERATION OF THE VAGINA IN LABOR.

This communication was read by Dr. J. Matthews Duncan, physician accoucheur, etc., to St. Bartholomew's Hospital. The author had recently observed two cases of a remarkable vaginal abscess in women recently confined; the symptoms were alarming. He attributed them to laceration of submucous cellular tissue and consequent hematoma. They were characterized by a rounded opening admitting the tip of the finger, which, when pressed, entered a cavity as big as a walnut.

Dr. Hayes had recently seen a case which lent support to Dr. Duncan's opinion. A primipara, over thirty years of age, complained of pain in the vagina and vulva a few days after delivery, which had been slow but normal. There was a short perineal tear. Slight febrile disturbance arose and vaginal pain became extreme. Upon further examination, a semi-fluctuating swelling, of the size of a Tangerine orange, was felt in the vagina near its orifice. A well-known surgeon, who thought that the swelling was an abscess, subsequently laid it open; but its contents proved to be chiefly blood-clot mixed with purulent, grumous fluid. Dr. Duncan's cases might, of course, have had a septic embolic origin.

Dr. Cleveland noticed that in both cases the short forceps were used, yet Dr. Duncan thought that in neither could the laceration be attributed to that instrument. If the author of the paper had himself operated, there would have been no need to raise the question; but Dr. Cleveland submitted that a strong guarantee was requisite, under the circumstances, for excluding the probability of a wound having been accidentally inflicted.

Dr. Herman had seen one curious case of laceration of the vagina, of a class to which allusion was made by Dr. Duncan, though not included in the main subject of his paper. The case occurred in a patient with a flat pelvis. The head entered the brim with its long diameter transverse, and was delivered with forceps applied in the sides of the pelvis. After delivering the head and removing the forceps, Dr. Herman was awaiting some indication of uterine action, that he might assist in the delivery of the shoulders, when he saw the hand protrude through the anus, the uninjured perineum being between the hand and the head. Then uterine action came on, and the shoulder was driven down, tearing through the recto-vaginal septum from above downwards.

Dr. Champneys had met with two cases, both some years ago, both in hospital practice, and both fatal from septicemia. In one case, the forceps were used to terminate labor for eclampsia; very little force was necessary. In the other, labor was natural and apparently easy. In both, the openings were round and unlike lacerations. In the second case, the cavity looked unhealthy, and the veins starting from the placental site, and also the internal iliac veins, were full of pus.

Dr. Boxall related the case of a weakly primipara who died seventeen days after delivery. Vaginal examination on the
eleventh day revealed a thickening at the roof of the vagina, fixing the cervix, but no laceration. At the necropsy, two holes were found, quite at the upper part of the vagina and immediately in front of the cervix. Each hole was the size of a sixpence. They lay one on each side of the middle line, and a smaller hole, of sufficient size to admit a goose-quill, was found below and between them. They intercommunicated, and led to a large cavity beneath the mucous membrane. The nature of this condition was doubtful. Dr. Boxall was now disposed to consider the cavity as originating in a hematoma, which had subsequently suppurred and opened spontaneously into the vagina.

Dr. Horrocks described a case, which he saw with Dr. Lynn, of Woolwich, where a hematoma formed between the vagina and rectum, which broke down and opened by a pin-hole orifice into the vagina. It was freely incised, and soon healed. In a second case, the patient complained of great pain in defecation. On examination, a lump was felt in the submucous tissue of the posterior wall of the rectum. Dr. Horrocks asked if this might not have been caused by pressure during parturition, the intervening structures not being lacerated.

After some observations by Dr. W. S. A. Griffith, two cases were described by Dr. Herbert Spencer. They occurred in primiparous delivered naturally. In one (inflammation in the usual situation being absent), there was induration of the recto-vaginal septum low down in the middle line, attended by high fever and followed by the discharge of pus and blood into the vagina from a ragged orifice by a hole of the size of a pea. This had led him to diagnose suppurating thrombus. The other case was similar, but not observed to the end. Systematic examination of patients some time after labor would probably prove that injuries of the vagina were more common than was at present supposed.

After Dr. Carter had discussed the subject, Dr. Matthews Duncan replied. He had dissected in Paris several puerperal fever cases, and was astonished at the frequency of submucous vaginal ecchymosis or thrombus. The case of thrombus of the pudendum mentioned in his paper showed that blood might so accumulate to a very great extent when there was a large opening for its exit. These facts were the bases of his theory of the peculiar abscesses already described. Dr. Duncan was familiar with longitudinal lacerations of the vagina, spontaneous and by forceps. He had seen many of them in consultation when alarming symptoms supervened after delivery, and had observed them in his own private practice. Such lacerations could not be confused with the lesion he now described, for in the latter there was no evidence of laceration.

CHOREA IN PREGNANCY.

The author of this paper, Dr. Montagu Handfield-Jones, lecturer on midwifery to St. Mary's Hospital Medical School, said that the causes which lead to the production of choreic symptoms were probably numerous. The various theories which have been formulated to explain the causation of the disease might each have their application in different cases. In this communication, the author drew attention to the disease solely when it occurred
in pregnant women, illustrating by two cases one pathological process by which the symptoms of the disease might be caused, and by which they might reasonably be accounted for. The chorea of pregnancy was considered by itself, since in all cases of this variety of chorea there existed one common groundwork, namely, an unstable condition of the nervous system. This condition was always present in the gravid constitution, of which it formed an integral part.

Dr. John Phillips, in referring to cases of severe chorea in children, spoke of two methods of treatment not mentioned in the above communication, namely, the warm wet-pack, which often had a marvellous effect in quieting the movements, and forcible feeding by Paley's bottle when there was much exhaustion. These methods seemed quite suitable for the chorea of pregnancy.

Dr. Horrocks believed that chorea was a blood disease in its origin, related to rheumatism. He spoke of the theory of the detachment of fibrinous shreds from the cardiac valves, which shreds, when carried up to the cerebral vessels, were believed by some authorities to account for the phenomena of chorea. In pregnancy, one acknowledged cause of chorea, the blood was certainly altered. Fright was a potent factor in the production of chorea, and also of hystero-epilepsy, and even of true epilepsy, as in a case he had observed where there was no hereditary predisposition.

Dr. Arthur Jamison described several cases where chorea was clearly due to fright in pregnant women and others, hence it could hardly be a blood disease. He strongly advocated strong doses of conium; in one severe case where arsenic, iron, etc., had proved useless, marked benefit immediately followed the use of that drug.

Dr. Herman believed in the connection between chorea and pregnancy. The majority of such cases were benefited by the induction of abortion or premature labor, but not all. There were no rules by which the obstetrician could distinguish the cases which would from those which would not be relieved by that treatment. Such rules could only be established by study of careful clinical reports like those in Dr. Handfield-Jones' paper. Dr. Herman did not agree with the author in his opinion that there was no organic change in chorea. Phrases like "exalted nerve sensibility" conveyed no instruction. The symptoms indicated organic changes, though as yet we had not the means of detecting them. Nor could chorea very well be a blood disease, since it was usually unilateral. Blood diseases were marked by symmetrical phenomena.

Dr. Amand Routh related a case of chorea, associated with a low form of puerperal insanity, in a nullipara aged 20. She was single, and pregnancy was ascertained on his examining the patient; the condition had previously been overlooked. Copeman's digital dilatation of the cervix was effected, but abortion ensued within a few hours, and in three or four days, in spite of a sapremic attack, almost all the chorea had disappeared and the patient became rational. In respect to the blood theory, Dr.
Routh noted that almost all cases occurred during the first three months of pregnancy, when the blood state was but little altered.

Dr. Matthews Duncan had recently seen a patient in whose two only pregnancies there was severe unilateral chorea, so exhausting as to demand induction of labor in the second pregnancy. In the first, twins were born alive at the fifth month. In both attacks there was no anxiety except on account of weakness. The temperature did not rise nor were there signs of cardiac or renal disease. Medicines did no good. After the premature delivery, recovery was rapid.

In reply, Dr. M. Handfield-Jones pointed out that in his communication he had not attempted to discuss the possibility of chorea depending, in some instances, on blood conditions or on organic changes in the nervous structures. His cases were quoted solely to show that the chorea of pregnancy was sometimes an outward sign of deranged function of nervous centres, and existed quite apart from any appreciable change in those tissues. He admitted that chorea was sometimes only one item in the rheumatic series, as Dr. Cheadle had recently pointed out in his Harveian Lectures. It could hardly be shown, however, that this point had any application in the cases now under consideration. If the chorea had depended on any lesion of tissue, the interchange between insanity of the muscles, delirium of the higher intellectual centres, and paralysis could hardly have taken place so rapidly.

ABSTRACTS.

1. Freund, H. W.: On Placental Retention Due to Narrowing of the Contraction Ring (Zeitsch. f. Geburts. u. Gynäk., XVI., 1).—The case reported by B. S. Schulzke, in which he was compelled to perform Porro's operation on the sixth day, because of puerperal septicemia following retention of the placenta, is unique in the treatment adopted, but retention of the placenta owing to the rapid closure of the cervix is, though a rarity, better known in literature. Cases have been reported by Hegar, Aepli, Seulen, Labusquière, and others. The relative frequency of this accident in abortions is mentioned by all authors. Spiegelberg attributes it to: (1) improper management of the third stage, particularly by traction on the cord; (2) pathological adherence of the placenta; (3) previously existing metritis; (4) premature loss of the waters; (5) ill-timed traction on the presenting part of the child; (6) ergot; (7) "taking cold" of the lower half of the body. Experience shows that these causes are frequently absent. Traction on the cord is regularly practised by many without a correspondingly large number of cases of retention; the same is true of the administration of ergot and where the placenta is adherent. Some cases, too, recur in the same individual with every labor. F. thinks that the etiology is to be sought for in the constitution of the uterus or in the entire system. He narrates seven cases which he has personally seen. While several of the factors formulated by Spiegelberg were present in these cases, he believes the cause to lie elsewhere. In four of the cases the uterus was anteflexed, being congenital in three and
acquired in one. One of the characteristics of this condition is the decided narrowing of the internal os. F.'s deductions lead him to make some practical applications, especially as regards prophylaxis. Where ante-flexion of the uterus is known to exist, all means which may excite the contraction ring must be avoided; the bladder and rectum should be regularly emptied before and during labor; ergot and irritating drinks should be utterly banned. But of chief importance is a strictly expectant plan during the stage of placental expulsion; narcotics in moderate doses may be found necessary; lukewarm douches under weak pressure, moist warm applications to the abdomen, or a full bath may help to relax the rigidity. Should, however, the various means prove of no avail, and decomposition of the retained placenta take place, with infection and increased temperature, extirpation of the uterus offers the only feasible means of averting dangerous consequences.

L. R.

2. Cholmogoroff, S.: The Micro-organisms of the Umbilical Stump (Zeitsch. f. Geburts. u. Gynäk., XVI., 1).—In former times, it was always endeavored to keep anything of a putrefactive character at a safe distance from a puerperal woman. With the advent of antisepsis, suppuration of the umbilical stump has been recognized to have some influence upon the maternal economy. According to Runge, one of two processes takes place in the stump: With a high temperature and a moderate amount of moisture in the accessible air and in the dressings, it mummifies; if the air be excluded and the dressings saturated by fluids, gangrene occurs. The former result should always be sought after, as it hinders auto-infection on the part of the child. Gangrene is a frequent occurrence with the dressings in ordinary use. Fagon-sky recommends the application of powdered plaster of Paris as the most likely to secure mummification. The experiments of the author were made to determine whether bacteria existed constantly in the stump, whether the nature of the treatment of the latter exercised an influence upon their origin and number, and whether their presence was coincident with the beginning of puerperal disease in the mother. His researches were made in Moscow during the months of February, March, April, and May, at which time, it may be mentioned, puerperal disturbances were not endemic in that locality; the children were all free from blenorragic conjunctivitis. After the cord was tied in three places by a tape previously disinfected, it was dressed either with simple absorbent cotton, with lanolin, or with plaster of Paris. Cultures were made from the stump, and from segments of the cord included in the additional ligatures. The results are formulated as follows: (1) The umbilical stump of the new-born infant is absolutely free from bacteria; they come from external sources. (2) Pathogenic micro-organisms which develop in the stump are the staphylococci albus, aureus, et citreus, and the streptococcus pyogenes; of non-pathogenic germs found are the sarcina lutea and the bacillus subtilis. (3) Depending upon its surroundings, the stump disappears either by mortification or mummification. (4) The development in large numbers of pathogenic and non-pathogenic germs is enhanced by moist gangrene. (5) When the stump undergoes mummification, its longer segment becomes the site of the development of non-pathogenic organisms exclusively, while the latter, as well as a moderate number of pathogenic micro-organisms, thrive in the shorter segment. (6) Mummification takes place more completely under a plaster of Paris dressing than when other methods are employed, and the development of pathogenic organism was observed to be reduced to the
minimim. (7) The pathogenic bacteria of the umbilicus are identical with those of puerperal fever. (8) The development of pathogenic micro-organisms in the cord of the child is independent of the existence of puerperal fever in the mother or of blenorrhagic conjunctivitis in the child.

3. Ehrendorfer: Report of a Case of Hematoma of the Vulva during Pregnancy (Arch. f. Gynäk., XXXIV., 1).—The patient was 32 years old; had menstruated since her twentieth year, and had had four natural labors; she was in the fifth month of pregnancy on admission. She stated that about ten days previous, while engaged in coitus with her husband, who was overstimulated and violent, she suddenly experienced very acute pain in the right labium majus, which necessitated cessation of copulation. Within a short time following, accompanied by constant pain, a swelling took place in the region of the right labium majus, which, at first the size of a hen's egg, gradually became as large as a man's fist. On examination, the left side of the vulva was found to be somewhat hyperemic, but otherwise normal. On the right side was the tumor, reaching from the upper border of the symphysis to the anus, measuring thirteen centimetres in length and ten centimetres in breadth; the swelling was of a bluish-red color and of tough, elastic consistency. Fluctuation was apparent in situations where the skin was thinly stretched; there was no increase in temperature over the tumor, and no reaction in its surrounding tissues, but the pain from pressure was great. The right labium minus was darkly colored, somewhat edematous, but not unfolded. The tumor presented toward the vaginal orifice. An incision several centimetres in length was made through the vascularized thin skin, and a clot of black-red blood easily expressed. After cleaning of the cavity, considerable bleeding still occurred from the base of the cavity, and, as there could be no possibility of injury during the incision, this vessel was properly regarded as the source of the hematoma. The patient made a rapid recovery, and pregnancy was uninterrupted.

4. Ringe, M.: The Therapy of Uterine Myomata (Arch. f. Gyn., XXXIV., 3).—The high mortality attending myomotomy is a surprising but indisputable fact. The author is more and more inclined to dispense with operating in those cases presenting the single indication of "bleeding," and now only resorts to the knife when all other means have been tried without success. The source of the hemorrhage is the diseased uterine mucous membrane. When the endometritis caused by the myoma is removed, control of the hemorrhage is gained. He recommends the curettage of the uterus, followed by the injection of tincture of iodine; he claims it to be the most successful method of checking the exhausting losses of blood, and thinks that the exaggerated fear of the method in the minds of many gynecologists prevents its more general employment. He has never seen the evil effects attributed to it, especially the decomposition of the growth, in a series of forty cases. His custom is to first make thorough examination under anesthesia; the vagina is then very carefully cleansed and the vaginal portion fixed with a forceps; a sound, previously disinfected, is then carried up into the uterus and note taken of its position, etc., as well as the situation and attachment of the tumor; the frequency of atrophic patches occurring in the walls of the uterus should make the sounding exceedingly circumspect. The uterus is irrigated with a three-per-cent solution of carbolic acid, and
the curetting, accomplished with a sharp spoon, is then begun; on its completion the uterus is again irrigated with the carbolic solution, the patient is put to bed, and the uterus protected from excitants by the use of an ice-bag on the abdomen. If no unfavorable reaction occurs after twenty-four hours, the iodine injection may be made. After preliminary irrigation, a Braun uterine syringe with a long canula, previously filled with iodine and immersed in a five-per-cent carbolic solution, is carefully introduced and brought as far as it will go into the uterine cavity, and then withdrawn about one-half to one cm.; the piston is then very slowly pressed forward until from a half to one gramme of the iodine has been ejected; should pain occur, the injection is at once stopped. The canula is reintroduced in the neighborhood of the os internum, and the syringe made to aspirate the serous fluid, or the latter is washed away by a carbolic solution through a Bozeman catheter; the latter cannot be done if the os, as it frequently does, closes in obedience to the stimulus of the iodine. After every injection, a rest in bed of twenty-four hours' duration should follow. If no reaction occurs, the injection may be repeated within from twenty-four to forty-eight hours. The dose of the iodine used may be increased with this and the succeeding injections, the width of the cervical canal being a guide; the canal must be roomy to allow large quantities of the tincture to run out along the canula. In some cases where the injections produced no unpleasant symptoms, he allowed two grammes of iodine to remain in the uterus; the fluid was gradually expelled, with sharp labor-like pains, during the following twenty-four hours. The copiousness of the hemorrhages determined the number of the injections, as did the length and width of the uterine cavity. The smallest number made was six, the greatest from ten to fifteen. When the uterine adnexa were diseased, the injections were practised at long intervals, with the patient keeping the bed and an ice-bag applied over the uterus after each injection. Symptoms of iodic intoxication were not noted. In the cases so treated, there was a decided diminution in the loss of blood at the next menstruation. The first periods after the injections were frequently postponed, sometimes for days, sometimes for weeks, remaining absent altogether in some cases. Sometimes the first menstruation lasted but a day or two. After three or four months, the patient's condition showed the beneficial effects of the diminution in the loss of blood. The pain during menstruation which occurred in some cases was sensibly diminished or removed entirely. Abrasion of the mucous membrane alone appears to be useless. When the injections are faithfully tried and fail to give relief, there is nothing left but the operation of myomotomy.

L. R.

5. Lerch, H.: Contribution to the Diagnosis and Treatment of Carcinoma of the Ovary (Arch. f. Gyn., XXXIV., 3).—Malignant tumors of the ovaries, formerly considered very rare, are now very frequently encountered. The author selected for observation twenty-two from a number of cases of malignant tumor of the ovaries occurring in his clinic. Historically they presented the features of simple cylinder-cell carcinoma, with greater or lesser implication of the connective tissue; medullary carcinoma was the most frequently present; all originated primarily in the ovary. In 14 cases, the growths were accompanied by cysts in greater or lesser number; the size of the cysts determined the size of the tumor. The cystic portions were mainly made up by a union of the cystic with the carcinomatous elements; less frequently they resulted from softening and suppuration of the carcinoma.
itself. It appears, therefore, that carcinoma attacks by preference an ovary already the site of cystic degeneration. The frequency of bilateral growths was also remarked; of the 22 cases, both ovaries were affected in 14; this fact may be of diagnostic utility. The size of the growths varied; if connective tissue predominated, they were small; they varied from the size of a nut to that of a child's and, in two cases, a man's head. The shape of the tumors approached that of a globe in the majority of the cases; in others the boundaries were uncertain and indistinct. The surface was generally finely or coarsely nodulated, depending upon the size of the mass, but several smooth ones were encountered. The consistency of the tumors was either uniformly hard, or alternately hard and soft in patches; the latter being caused by the cystic or softened portions. Firm consistency combined with nodular growth pointed very decidedly toward carcinoma. No etiological factors could be made clear for these cases; of the 22 women, 18 were married and 4 unmarried; 2 were between 36 and 35 years of age; 10 between 42 and 59; 6 between 53 and 57; 2 were 60, and 1, 70 years old. It occurs, therefore, more frequently in later years, during or shortly after the menopause. Other observers generally find the period of greatest sexual activity as the most predisposing time for the development of carcinoma. In most of the cases the onset of the disease was insidious. In almost all cases the patients complained of pain in the abdomen and back, radiating down the legs; this was accompanied by an increase in the size of the abdomen and a feeling of tension, mainly in the umbilical region. After attaining a certain size, the tumors generally develop rapidly. The patients gave as the duration of their trouble the following: 7, from 1 to 6 months; 6, from 7 to 12 months; 5, from 1 to 2 years; 2, 5 years; in 2 the duration was not ascertained. The development of the growths varies; it is only in the later stages, when the tumor rapidly increases in size, that we can obtain positive data upon which to base a diagnosis of malignancy. In rare cases the trouble begins acutely with inflammatory symptoms; a rapidly developed carcinoma undoubtedly may lead to inflammation of the peritoneum.

Menstruation was affected as follows: In 7 cases, it was rendered either more profuse or was diminished, or the discharge continued during the intermenstrual periods, or the blood showed changes in color or odor; in 5 cases, the menses remained absent altogether; in 4, they were unchanged; in 2, no information on this head could be obtained. Disturbances of the functions of the bowels and of the bladder were frequent; they have diagnostic import. Ascites occurred in 15 of the cases; in several, the quantity of fluid reached 20 litres and more. Early occurrence of edema of the legs and labia is of importance; it occurred in 7 cases; in 3, there was edema of the abdomen, and in 1, general anasarca. With the occurrence of edema the patient is in a precarious condition. Metastasis is a very unfavorable occurrence, as an operation is then useless: metastasis occurs frequently and in many situations in carcinoma of the ovary. The surrounding glands are generally the first to be implicated, but the disease quickly traverses to remote structures.

The course of the malady varied; in some, death occurred at the second or third month; in others, life was prolonged for a long period. Metastasis and ascites lead more rapidly to a fatal termination. The malignant nature of the trouble generally discloses itself at the menopause. The differential diagnosis between carcinoma and sarcoma is more, difficult: carcinoma occurs more frequently; sarcomata are generally smooth, grow rapidly, are
more movable, and are said to occur earlier in life, nor do they show a tendency to metastatic formation.

The prognosis of carcinoma of the ovary is generally bad; it is proper, therefore, to cut short the ravages of the disease by operative means. While operations for the removal of benignant growths are followed by brilliant results, small success has been secured in cases of malignant character. Of the 22 cases, 8 were operated upon, and of these 8 but 1 made a good recovery. Operations are rendered difficult by the size and by the ramifications of the growths; their removal is at times almost impossible. In the author's cases, the cystic portions of the tumors were punctured, contrary to the advice of good authorities; the punctures were necessary to diminish the size of the tumors. The results of the operations are generally bad, because the growths are allowed to attain too large a size. Early diagnosis and operation offer the best results. In three of L.'s cases, exploratory laparotomy was performed, but with ill-success. Ascites, when great, may be relieved by puncture; if operation is contra-indicated, a nutritious diet and symptomatic treatment are called for.

6. Sperling, L.: Two Cases of Triple Birth (Arch. f. Gyn., XXXIV., 3).—The first patient was a healthy woman, 37 years old, who had had nine previous labors. The diagnosis of twin pregnancy was made on admission. Labor proceeded normally; after the birth of the first child, and before an examination of the woman could be made, the second bag ruptured and another child was spontaneously born. While the cord of the latter was being tied, the feet of a third child appeared at the vulva; slight traction was sufficient to expel the child entire. The placenta weighed 1,350 gm.; it possessed one chorion and three amnii, the latter much torn. The lying-in period was perfectly normal; the three children (all females) were suckled by the mother; the third child perished two nights following; autopsy revealed imperforate gut at the junction of the jejenum with the ileum, old perhepatic cicatrices, and hemorrhagic pneumonia of both lower lobes. The first child weighed 1,860 gm. and was 46 cm. long, the second weighed 1,980 gm. and was 46 cm. long, when the patient was discharged.

The second case was 34 years old, had had four previous labors, and had never had any illness; the urine copiously albuminous; pelvis normal; there was great edema of the legs and a pendent abdomen, interfering greatly with locomotion. The membranes ruptured suddenly without any previous pains, followed half an hour later by the birth of a living female; a living male was born shortly afterward; a little later and another child, a living female, was expelled. The uterus contracted well, and about one hour later the afterbirth came away; the whole labor lasted but two hours. The afterbirth consisted of three placenta adherent together by their membranes; total weight, 1,091 gm.; each placenta had its own chorion. The lying-in state was normal. The children were nourished by the mother and artificially; the first one weighed 1,480 gm., the second 1,980 gm., and the third 1,820 gm.

7. Bumm, E.: On the Problem of Further Investigations in the Field of Puerperal Wound Infection (Arch. f. Gyn., XXXIV., 3).—A great advance was made when two varieties of wound infection came to be recognized: Septic infection, caused by the entrance into living tissues of known pathogenic organisms, and putrid intoxication, due to the absorption by the blood of poisonous chemical substances. Uncomplicated cases of
puerperal sapremia are not infrequent; putrid decomposition of retained placental shreds or blood-coagula, putrid placental polypi, etc., are the most frequent causes. The poisonous matter is taken up by the circulation and produces characteristic symptoms; the germs do not multiply in the blood, but are replenished from the original source; when the latter is removed, fever subsides. It has not yet been explained why the germs do not progress beyond the internal os into the uterine cavity. Winter believes that it is due to the absence in the uterus of a fluid in which the germs could move forwards. B. has in several cases noted the presence in the uterine cavity of a copious secretion, and one which must have been there for some time; but tests made with samples removed showed them to be sterile; fluid is always present during menstruation and the puerperium. B. thinks that the failure of the germs to penetrate further than the internal os is owing to their lacking the power of locomotion, and because various mechanical aids fail them when they reach the internal os. In order, therefore, that retained substances in the uterus should undergo decomposition, it is necessary that circumstances not previously existing must admit the entrance of fungi into the uterine cavity—generally accomplished by the fingers or instruments of attendants, or it may be facilitated by shreds of placental tissue hanging into the vagina, through which the processes of putrefaction may travel to the uterus, or by regurgitation of the germ-laden cervical secretion. Not every bacterium possesses the faculty of exciting putrefactive action. In order to be poisonous, the products of decomposition need not necessarily possess fetid odor. What favors absorption of the toxic substances? The uterus absorbs very rapidly, the vagina much less so and often not at all. Wounds and excoriations undoubtedly facilitate absorption of noxious elements. The pressure under which fluids are retained is of great importance in their absorption. Can putrid intoxication lead to septic infection? Cases of mixed sapremia and sepsis undoubtedly occur. The author thinks it highly probable. In infectious forms of puerperal fever, we have to deal with micro-organisms which actively penetrate the living tissues, which they damage by their increase, and which may so alter the chemical constituents and normal functions of the body as to cause death. They differ in their invasion from the germs of decomposition; the latter never attack living tissues. These organisms are mostly chain bacteria, identical with the streptococci accompanying wound infection. There are two varieties—the streptococcus erysipelatos and the streptococcus pyogenes; the former multiply mainly in the lymphatics and sinuses of the skin and subcutaneous adipose tissues, and produce the symptoms of an acute dermatitis; they do not enter the blood channels or deeper organs; they seldom cause suppuration. The streptococcus pyogenes always excite suppuration; they flourish in the lymphatics of the system and cause supplicative inflammation of the peritoneum, the pleura, and the joints; they penetrate the blood-vessels and cause metastatic pyemia. Gussrow thought the erysipelatos germs had nothing whatever to do with septic infectious diseases; Winckel believes them to be one of the most potent poisons in producing puerperal fever. B. says that clinical evidence is found in support of both theories, but proves nothing. Bacteriological investigation and experiments upon animals must be invoked in determining the question. The first shows that there is no morphological or cultural difference between the two cocci, and a great number of experiments upon animals made by a host of distinguished observers seem to substantiate this.
ICTERUS GRAVIDARUM: REPORT OF A CASE, WITH REMARKS.\(^1\)

BY

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Mrs. R., born in Germany, aged 24, of fair stature, about five feet, and good physical development; wife of a cigar-maker; in very poor circumstances; married about two years and a half; gave birth to her first child about a year and a half ago. During lactation she was afflicted with acute inflammation of one breast, ending in the formation of several abscesses, which were opened by incision. This child died in the early period of its infancy.

In October, 1875, I was called to see her, as she was not well. I found her living in a back room of a tenement house. She complained of a severe pain in the pit of the stomach—a peculiar pain, which went right through to a point opposite in the back. There were thus two points of pain, one in the back and one in the epigastrium on a direct transverse line, but the point of greatest suf-

\(^1\) Read before the Obstetrical Society of Cincinnati, May 15th, 1889.
ferring was in the pit of the stomach. The pain being very acute, I gave her a hypodermic injection of morphia. This relieved her in a very few minutes, and the relief continued for some days, when the pain again returned and was again relieved by a hypodermic injection.

About this time, patient informed me that she believed she was in the family way, as she had missed her menses at the last period.

In a short time the evidences of jaundice became apparent, more marked in the sclerotics than in the skin. Treatment for this was instituted. On account of the information that she might be pregnant, I confined myself to the milder group of remedies, and directed, seriatim and alternately, warm baths; decoctions of rhubarb; nitro-muriatic acid, alone or in combination with rhubarb; baths with nitro muriatic acid; warm rectal injections; blue mass and opium. This last combination controlled, to a considerable extent, the pain above mentioned, though not entirely, as occasionally she would have a severe paroxysm of pain which necessitated a hypodermic injection of morphia for relief from it.

Although in the early period of pregnancy, there was no morning sickness, no vomiting. The appetite was poor, the patient subsisting chiefly on light broths, tea and toast, coffee and toast, a little oatmeal gruel—and these in but small quantity.

At a period corresponding to the third month of pregnancy, the patient had a hemorrhage, as she declared, from the womb, discharging more than half a chamberful of blood which I saw myself.

As the condition of the patient was growing worse—that is, the jaundice becoming deeper, the debility greater—I requested a colleague, now a teacher of obstetrics, to see the case with me.

After questioning the patient closely and carefully noting her condition, he said to me that the patient was suffering with gastro-duodenal catarrh, and that this, as it frequently does, had produced the miscarriage—the hemorrhage coming undoubtedly from the womb. He therefore advised me to treat the patient with sharp and active purgation by means of very active cathartics.

For the reason that possibly the woman might have been mistaken as to the locality whence the hemorrhage came, there being a possibility of its having come from the rectum, and for other reasons I do not now recollect, I did not coincide with my colleague either as to the character of the pathological state present or as to the certainty of the miscarriage, and therefore disregarded his therapeutic counsel.

The treatment was continued as before: decoctions of rhubarb with or without nitro-muriatic or muriatic acid, decoctions of ipecac root, baths, rectal injections, and occasionally the blue mass and opium followed by a saline cathartic, i.e., Rochelle salts.

The pain referred to at the outset recurred now at much longer intervals and was always promptly relieved by the hypodermic injection of morphia. This I generally followed up with the blue
mass and opium for a day, then some Rochelle salts, and then a return to the previous treatment.

Except this particular pain, patient complained of no pain or tenderness in any other part of the body.

Palpation of the liver disclosed a considerable degree of enlargement of this organ, but no especial tenderness over it.

Time soon proved that my doubts of a miscarriage, in this case, were well founded, as the evidences of a continuation of the gestation, the increase in size and the rounding out of the belly, became more marked.

But the other symptoms of the patient increased in severity and gravity. The liver continued to enlarge; the icterus became deeper, the patient having an almost coppery tint, a veritable condition of cirrhosis having become established; the debility was very great, so that the patient passed the greater part of her time in bed: complete anorexia; some insomnia; occasionally a slight febrile movement.

We thus went along until March, 1876. About the early part of this month, the patient, who had become very despondent, asked me if I thought Carlsbad would do her any good. I told her that if there was any possibility of her getting there, the sea voyage and the waters of the springs would be of the greatest benefit to her. She then requested me to draw up a statement of her condition and the advice to go to Carlsbad, with the additional request to have another physician also sign the statement, as she hoped that, fortified with such a document, she would be able to obtain the means necessary for the trip from some distant relative.

I therefore requested Dr. Reamy to see the case with me and then give the patient the benefit of his signature.

At this time, about the sixth month of her pregnancy, she was extremely emaciated. Her whole body was of a dark coppery color, with here and there, both on face and body, streaks of dark and bright green.

The liver was enormously hypertrophied and extended within an inch and a half to two inches of the crest of the ilium. The free borders were bosselated and knotty, so that a suspicion of cancerous disease was aroused in the mind of Dr. Reamy.

The patient went to Europe. On the steamer she was given salt-water baths. The pain in the stomach reaching to the back left her, and her appetite improved greatly. She did not get to Carlsbad, however, if being as yet too early in the season. She went to the home of her parents, where she remained for the period of six weeks. Here, upon the advice of a physician, she took a course of Carlsbad water and continued it throughout the whole period of her stay.

Feeling much improved, she returned to America. I did not see her from the day before her departure, the 18th of March, 1876, till the 13th of June, the same year.

She was then greatly improved. She was much stronger, had gained in flesh, and was very much lighter in color.
On the 13th of June, she was delivered of a child at full term, after an easy labor.

The infant was of fair size and development. The peculiarity about it was that its skin had a deep yellow tinge, and that here and there, on face and body, there were streaks of dark and light green, just as had been observed in the mother previous to her departure for Europe.

Although born alive, it appeared very feeble; its cries were weak and moaning. An attempt was made to give it some sweetened fennel-seed tea, but it did not swallow it. It died on the 15th of June, having lived about thirty-six hours.

The mother got along very well. At long intervals she would have one of those pains already described, but not very severe, which was readily relieved by the pill of opium and blue mass.

In the summer of 1877, she had another severe attack of pain, but this time more of the nature of a colic, and more in the locality of the common bile duct, though the point of greatest suffering was in the epigastrum. I relieved her with a hypodermic injection of morphia and directed her to resume the use of the Carlsbad water. I also directed the husband to carefully examine the feces passed when the purgative effect set in, and see if they contained any gall stones.

On returning after a few days, the husband, a very intelligent and well-read man, told me that he had found one gall stone in the stools of the first day which he had collected and examined—a stone about as large as a hazelnut. He had preserved it to show it to me, but before I came it had been accidentally lost. He was positive that it was a gall stone, and not merely a lump of hardened feces. He had examined the stools after this, but did not find any more.

There was no return of the jaundice. The enlarged liver retracted slowly. Two years after her delivery, in 1878, I again examined her liver and found it extending two inches below the border of the last rib.

She is now in excellent health. She has three boys, the oldest about nine years of age. She has not had a repetition of the jaundice in any of her subsequent pregnancies.

The case just related presents many points of interest.

1. The Symptomatology.—The first point that must necessarily attract our attention is the absence of all those phenomena or symptoms that are especially connected with gastro-duodenal catarrh.

This is the more singular and the more deserving of attention in view of the etiological prominence given this pathological process in the history of icterus of pregnancy.

Though the epigastric pain, described in the history, might perhaps, at first glance, be brought in connection with such a
Icterus, still a careful consideration of its peculiarities, as described, will show that it bore no relation to such a malady.

This pain is also one of the peculiarities of the symptomatology. As described it is characteristic, pathognomonic, of gastric ulcer; and still, such a condition is altogether out of the question, as the absence of all the other concomitant symptoms of the disease—and they certainly would have appeared in the course of the period of sickness, had it been present—and the subsequent disappearance of the pain, and the continued good health of the patient amply demonstrate.

Neither can it be attributed to the unsuspected presence of gall stones, though the finding of such a one at a later period might lend color to such a presumption, for the following reasons:

(a) The pain was not at all such as is caused by the passage of a gall stone. The pain so produced is of a peculiar character, colicky, and certainly not to be mistaken for anything else.

(b) It was not in the direction and location, as is clearly seen, of the biliary colic.

In view of these facts, the later finding of a gall stone lends no support to such a hypothesis, i.e., the presence of gall stones and biliary colic at the outset.

The occurrence of the gall stone at the very late period in the history of this case can be readily accounted for according to the statement made by Frerichs, that long-continued irritation of the biliary ducts may become an etiological factor in the formation of gall stones.¹

I must confess that, in the absence of other corroborating phenomena, I am at a loss for an explanation as to this symptom.

Another interesting point is the hemorrhage that occurred. It is interesting because decidedly instructive. It is commonly assumed that in the pathological state described in our history a miscarriage must occur, and consequently the occurrence of a hemorrhage is taken as evidence that it has occurred.

That such is not the case is proven by the cases of jaundice of long continuance² that have gone to full term and been delivered of living children. Furthermore, it is sufficiently demon-


IlLOWAY: Icterus Gravidarum.

strated by our case that even when we do have hemorrhage, this
is not necessarily uterine, but may come from the rectum—a
phenomenon not unfrequently encountered in various forms of
hepatic trouble.

This is certainly of great importance from a therapeutic
standpoint.

II. The Liver. — The icterus of pregnancy, as generally de-
scribed, is of two forms:

(a) Simple icterus.

(b) Icterus gravis, or acute yellow atrophy.

In the first form there are no special phenomena. It usually
appears in the early months of pregnancy, the first or second,
and lasts from two to four months.¹

The second form, known as icterus gravis, occurs most com-
monly about the seventh month of pregnancy, presents all the
phenomena of grave septic infection, and is rapidly fatal.

In the first form, the liver itself is unaltered in size, retaining
its normal limits. In the second form, it undergoes the change
described in the name, viz., acute yellow atrophy—it is changed
in color and greatly diminished in size.

In our case we have a condition of the organ differing from
the above types, namely, a hypertrophic state of large propor-
tions.

Hypertrophy of the liver is met with in various diseases and
of various forms. We have the simple hypertrophy, the hyper-
trophy in cancer, the enlargement of the amyloid liver: but
none of these need be considered here, as they are excluded by
the history of the case.

The only two forms of hypertrophy that demand our atten-
tion, in the discussion of the question as to what form of hyper-
trophy confronted us, are:

1. Hypertrophy from retention, from obstruction of the
common duct—biliary cirrhosis.

2. Hypertrophic cirrhosis with icterus.

It is well known that complete obstruction of the common
bile duct and consequent retention of bile may give rise to a
cirrhosis with hypertrophy, known as biliary cirrhosis. It is
also a well-demonstrated fact that where the obstruction is but

Gynéc., loc. cit. Murchison ("Diseases of the Liver," edited by Brunton
and Fayrer, 1885) says it usually occurs in the later months.
temporary the hypertrophy is scarcely noticeable, and only where it has become permanent does the liver in course of time take on a marked enlargement. According to Wickham Legge, this enlargement, at its maximum, does not reach an extent of more than three fingers' breadth beyond the border of the ribs, and never attains the size that we find in amyloid degeneration or in hypertrophic cirrhosis.¹

The causes of such obstruction, as described in the last edition of Murchison, "The Diseases of the Liver," are calculi impacted in the duct or a tumor pressing upon it externally.²

The history of our case negatives, in my opinion, therefore, any assumption of biliary cirrhosis as the form of hypertrophy presenting in our patient. We have no history of biliary calculi at the outset, and certainly none of tumor.

It might, however, be objected that possibly another cause may have been active here, for Prof. Virchow has demonstrated that, under certain circumstances, the catarrhal swelling of the epithelium lining the mouth of the common duct may assume such proportions as to completely occlude the passage, and we might thus have had biliary cirrhosis produced.

Against this it can be maintained with perfect safety that, had any such catarrhal swelling of the epithelium of the duct occurred, it is certain that in the long period occupied in the complication—over seven months—such further pathological changes would have occurred as to preclude any thought of further recovery. That such recovery did occur is conclusive evidence against any assumption of complete obstruction of the bile duct and consequent biliary cirrhosis.

Furthermore, the difference in size in the hypertrophy of our case and that occurring in biliary cirrhosis as laid down by Wickham Legge is of itself a powerful argument for the exclusion of this form.

There remains, therefore, but the second form, namely, hypertrophic cirrhosis with icterus.

The marked jaundice, the cachectic condition, the enormous size attained by the liver, argue in favor of this being the pathological form of the liver that presented in our case.

Though it is true that some of the characteristics of this form

¹ "Dictionary of Medicine," edited by Quain, p. 834.
of hepatitis are lacking here—namely, the symptoms of hepatic inflammation, the pain in the region of the liver, the smooth border ascribed to it—still, in so far as but comparatively few cases of this form of hepatic trouble, since its recognition, have been described, the absence of these and the contrary condition of the border, in the case here recorded, cannot be brought up as proof contra.

Furthermore, the pathological anatomy of this form of hypertrophy, as described by Charcot and Thierfelder,¹ argues in favor of bosselated and knotty border as being one of the possibilities of the disease, by the accumulation of bile in the minute biliary ducts and multiplied biliary canals, or by the more marked development of the hyperplasia in certain portions of the organ than in others—an occurrence not strange in the history of pathological anatomy.

If this argument be logically correct, we have, as one of the most interesting features of the case, the fact that a hypertrophic cirrhosis with icterus may constitute one of the complications of pregnancy, and, furthermore, that under favorable conditions the gestation need not be interfered with, and that at its termination the organ may return to its normal state.

III. The Etiology.—The causes usually assigned for this complication of pregnancy are either a choledocitis—the result of a gastro-duodenal catarrh—or a hepatic congestion from pressure of the gravid uterus.² But these cannot be invoked in our case.

The absence of all symptoms that respond to a gastro-duodenal catarrh precludes the supposition of the first cause. And not this alone, but the subsequent restoration of the liver and ducts is a most powerful argument against any such etiology; for had a choledocitis existed and had such long duration, it would certainly have resulted in a permanent occlusion and rendered recovery impossible.

The early period at which the jaundice appeared does not permit of the hypothesis of hepatic congestion from pressure upon the abdominal vessels by the gravid uterus. This conclusion is still more strengthened by the absence of all subjective sensations on the part of the patient, as weight, dull pain in the region of the liver—almost unfailing symptoms in hepatic congestion.

Moreover, it is very questionable whether the two causes above mentioned are truly, as has been said, the etiological factors in all cases or even a majority of them.

It is a fact that the majority of cases that are reported have come under observation at a period more or less remote from the initiation of the complication, and it is not unreasonable to suppose that in many cases the etiological factors have been merely assumed from the general facts that jaundice follows gastro-duodenal catarrh and occurs from hepatic congestion, and not deduced from symptomatic evidence observed.

What, then, may be the etiology?

Charcot, in his lecture on "Hypertrophic Cirrhosis with Icterus," speaking of the peculiar initial lesion, says: "Why this limitation to the small canaliculi, and by what influence is this produced? Must we invoke an initial alteration of the biliary secretion, entailing, as a consequence thereof, a lesion of the parietes of the most minute excretory canals? We do not know."

Thierfelder, in speaking of this form of cirrhosis, says that it is usually caused by alcohol, and that this most probably produces a change in the biliary secretion, giving it an irritant character, and this gives rise to the peculiar pathological changes that characterize this form of hepatic trouble.

Now, it is well established that we may have cirrhosis in patients not at all given to alcoholic drinks, and this was the case in our patient. We must, therefore, assume that other matter circulating in the blood, or that blood of a peculiarly altered condition, may give rise to such changes in the biliary product as to cause the subsequent interstitial hepatitis.

If this be true, we find sufficient reasons to account for such a change in the blood of our patient in her previous history.

She was, firstly, afflicted with a suppurative mastitis; then she was poor, very poor, and had not the means at command requisite to a restoration to the normal of her system. Her food was poor and insufficient, and her hygienic surroundings very bad.

It would, therefore, not appear far-fetched to believe that the etiological factor lay in a vitiation of the blood.

This position is still further supported by so eminent an authority as Prof. Ernest Ziegler. In the last edition of his

1 Le Progrès Médical, 1876. p. 655.
2 "Ziemssen's Cyclopedia," vol. ix.
"Handbook of General and Special Pathological Anatomy," 1887, treating of diffuse indurating hepatitis, he says: "Diffuse chronic indurating hepatitis is most frequently a hematogenous process, although it may also occur from changes produced in the biliary ducts, and is then designated as biliary hepatitis. As to the causes producing the disease in every individual case, we can, in so far as concerns the hematogenous process, say but very little that is positive. It is possible that substances re-absorbed from the intestines are the causes of this process. By many authors alcohol is placed in the list of etiological factors."

According to this explanation, the question would naturally arise as to the part played by pregnancy in the production of this complication in our case.

To answer this positively I should certainly be at a loss, for the complication set in at so early a date that it is really difficult to say whether it had any part therein or not.

It may be that the supervision of pregnancy produced such conditions as prevented the proper elimination of the irritating material already in the system, or even its partial elimination, and thus it accumulated and the hepatic trouble was produced.

Or it may be assumed that pregnancy produced such further changes in the blood and caused the development of the peculiar materies morbi necessary to the development of the hepatic malady. That pregnancy has such a predisposing influence is demonstrated by the history of icterus gravis—an affection which cannot be attributed to the causes above mentioned, and which, judging from its septic manifestations, must be due to a marked vitiation of the blood. Out of twenty-two cases of this disease observed in females by Frerichs, one-half (eleven) occurred in pregnant women.

If this view be correct, the question may be asked whether it could not be properly assumed that an alteration or vitiation of the circulating fluid, produced either previously or during

2 See Nouv. Arch. d'Obst. et Gynécol., Jan., 1887, p. 19 ("Ictère chez les Femmes grosses"), referring to the opinion of Prof. Peter: "Une partie des matériaux ternaires n'est pas éliminée suffisamment vite, et s'infiltrer."
3 According to some authors, this disease is due to imperfect oxidation of blood; according to others, imperfect elimination of cholesterol or of biliary acids. See preceding note.
pregnancy, is, in very many if not in most cases, the true etiological factor of this complication.

This assumption is supported by the fact that the cases of icterus in pregnancy recorded have been chiefly observed in hospital patients, a class of people enduring hardships and privations, and living under miserable surroundings, and in whom a vitiation of the blood readily occurs.

Should this view of the etiology of pregnancy be verified by further and careful observations—from the outset to the termination—we would have an explanation as to the mode of production of many cases which cannot possibly have been produced by the etiological factors mentioned at the outset, and which M. Hervieux has denominated, evidently for want of a better explanation, the protopathic icterus of pregnancy. We would have an etiology applicable to both the simple and graver forms, and obtain, perhaps, therefrom valuable indicia as to the prophylaxis of the complication and its cure.

IV. The Infant.—The facts established as regards the fate of the infant in this complication are as follows: Lomer, who carefully investigated this point, found that out of fifty-seven cases which he collected, forty-five were still-born.

Out of sixty-two cases collected by him, the infant was icteroid only in six. Quereil has lately reported seven cases, out of which five only are considered here; the two others being excluded on account of previous histories, one of pre-existing cancer, the other of pre-existing hepatic hypertrophy.

Out of these five observations, the infants were delivered alive and at full term in two. In one case the infant was born alive, but prematurely, and succumbed on the fifth day. In one case the infant was born dead prematurely at seven and a half months. In one case premature delivery at seven and a half months, infant born asphyxiated and succumbed in twenty-four hours.

As to the color of the infant, it is stated in observation one that the infant was icteroid; also in observation seven—the case excluded from consideration owing to a history of hepatic hypertrophy of five years’ duration.

2 “Amer. Syst. of Obst.,” vol. i.
It is remarkable, in the case reported here, that, though the jaundice was so great as to have constituted a veritable cirrhosis, the child should have survived to the full period, whilst even in the cases of mild character and comparatively short duration the child dies in utero.

It is true that Quereil observed a case of similar long duration in which the infant survived to the full period, but in his case the jaundice was not by far what it was in our case, nor was there that disturbance of the general system during the period of gestation, so far as can be gathered from the history, that was present in ours. In his case, all the grave manifestations set in after delivery.

But what is a still more interesting feature is this: that not alone was the mother affected by this complication, but also, through her, the infant, and that markedly, as shown by the deep green discoloration; and still, despite the great intoxication of the blood, the infant survived to be born alive. In the cases collected by Lomer, all the icteroid infants died in utero and were thrown off prematurely.

In the first observation of Quereil, already referred to, the infant, although icteroid, was born alive and at full term.

The question of greatest interest to me, however, is this: The infant was apparently well formed and fully developed; it survived the period of greatest gravity in the complication that occurred during its gestation, the period of greatest disturbance in the general economy of the mother, and was born at full period, only to die two days later; what was it that was the cause of death?

It certainly was not anything that occurred during labor, as the woman was a secundipara, well formed, and her labor was comparatively easy.

It might be answered that it was the blood in its body that had been so vitiated that life with it was impossible. To this, however, it might be objected that, if this were true, how came it that the child, whilst in utero, continued to thrive and grow upon this same blood?

The only answer that I find to this question is this: that the blood had not vitality enough, not stimulus enough, to rouse into action the organism under the new conditions of life it was placed in after birth. Or it might be said that, though it is true the blood was vitiated, still the whole volume of the mother's
blood, filtered, as it was, through the placenta, was sufficient in character to permit of life and to provide nutriment for the infant, but that when thrown upon its own volume of blood, and that alone, the vitiation of the small volume was too great to permit of life continuing.

V. The Therapeutics.—I will not delay with a discussion of the therapeutics of this case; I only desire to call attention to one point, namely, that whilst the patient remained at home under the baneful influences prevalent there, she grew worse despite all medication; but that as soon as she started on her sea voyage, which brought her out of her surroundings, gave her plenty of fresh air, the invigorating sea breeze, her general condition grew better and continued to improve.

Undoubtedly the Carlsbad water had some beneficent influence in this improvement, but I am inclined to believe that the greater share in her recovery must be attributed to the ocean voyage, and the fact that she was then better cared for and better provided for than at home.

And it seems to me that the fact just brought out is a strong argument in favor of the etiological view advanced by me.

A COMBINED RECTAL AND INTRA-UTERINE IRRIGATOR.

BY

JNO. S. COLEMAN, M.D.,
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(With woodcut.)

In the Medical Record for May 10th, 1879, I presented to the profession the metro-clyst as a ready and safe means of using tincture of iodine in cases of hemorrhage after abortion.

In February, 1885, through the columns of the Journal of the American Medical Association, I published a description of a modification of this instrument which made it available for the diseases of the rectum and surrounding pelvic structures.

Its flat, round end has been a bar to its easy introduction through the sphincter ani; therefore I suggested to Mr. Stohl-
Mundé: Dyspareunia caused by a rare injury of the hymen.

By Paul F. Mundé.

(With plate.)

It was formerly supposed that the hymen was destroyed by the first coition, and that all that remained of it after that event was a fringe of small tabs of skin known under the fanciful name of "carunculae myrtiformes."

Carl Schroeder first demonstrated the falsity of this view, and showed that the hymen is not destroyed by the first successful coitus, but is merely torn, and that, for some years at least,
Rare Injury of the Hymen.

its flaps remain so perfect that they can readily be brought together by the examining fingers, and the integrity of the hymen thus be apparently entirely restored. Only after a lapse of years, often not until the atrophic changes of the menopause have exerted their influence, do the hymeneal flaps shrivel and gradually disappear.

The defective knowledge on this subject which still exists among the profession here and there, was made clear to me some years ago by an assertion which I heard made by a prominent physician in a Northern town, who maintained that the flaps of the hymen could not remain so preserved that two weeks after the injury of the organ by sexual intercourse they could be put together and the hymen be made to appear perfect; and that, therefore, the charge of a young woman in his town who accused a man of having violated her, and who committed suicide two weeks after the alleged violation, could not be true, because the flaps of the hymen were found at the autopsy to be in such a state of preservation. How important a bearing this point might have on a similar case in a medicolegal sense is obvious.

Having shown that the hymen is merely torn by coition, Schroeder further demonstrated that it is actually destroyed by the overdistention of the vaginal orifice during parturition, and the superficial sloughing and physiological involution of the parts usually following that process. Only a few small nodules of skin ordinarily remain at either side of the upper half of the vaginal orifice to show where the sign of virginity once existed.

The usual site of the physiological lacerations of the hymen is on either side of the posterior commissure, the rent on one side being usually deeper than on the other. Next come two rents on one side, one above and one below, finally one rent on each side near the upper border of the membrane. Occasionally these rents may bleed very freely, a small arterial branch being torn. I have seen one such case, and one other of laceration of the vagina by the first coitus, both requiring rapid and active measures to prevent further loss of blood. The shape of the hymen and of its orifice will naturally largely determine the site and direction of the lacerations. A small circular opening will probably involve a stellate laceration, two rents on one side and one on the other; a semilunar hymen, one rent on
either side of the posterior commissure, etc. A thick, fleshy hymen will leave large tabs of skin, a thin hymen small nodules. A hymen very firmly attached at its periphery will naturally be torn from its orifice outward. A hymen with a small circular opening surrounded by a sharp, tendinous border, and growing thinner towards its periphery, may be torn away more or less from its attachment while the central opening remains intact.

After Schroeder, Budin made special investigations of the hymen and its injuries, and to the papers of both these gentlemen is to be attributed to some extent the practice which I adopted years ago of invariably inspecting and examining the hymen and vaginal orifice, whether intact or lacerated, in order to perfect my knowledge of the signs of virginity, nulliparity, or pluriparity. In this way I met with many curious malformations and lesions of that part of the female body, an acquaintance with which has been of some practical utility to me. And thus I detected the very peculiar and unusual lesion of the hymen of which I here present a plate, drawn for me from the subject by Dr. H. Macdonald.

The patient was a woman of about 40 years, the mother of a number of children, who came to my service at Mt. Sinai Hospital during the past winter for a uterine fibroid. The anomaly of the hymen was discovered at the first examination. Nothing could be elicited from the woman about her sensations during early sexual life. The hymen, as is evident, was torn bodily away from its attachment to the posterior, right, and upper border of the vaginal orifice, and hung loosely by a bridge of skin less than half an inch wide, to the left upper margin of the vestibule. It could be lifted up over the mons veneris and replaced to its original attachment. The central aperture was intact and admitted the first joint of the index finger. Coition and parturition had evidently taken place readily underneath the pendulous hymen, which hung over the vaginal orifice like an apron.

One other precisely similar case came under my observation in a private patient about two years ago—a young nullipara, who consulted me for sterility. The hymen also remained attached by the left upper border. This lady was intelligent enough to remember that the first attempts at coition (she had been married only three years) were very painful and attended
by considerable hemorrhage, both of which symptoms soon ceased, and coition now is painless. For obvious reasons I could not have a sketch made of this case.

My attention was first directed to this peculiar variety of physiological injury of the hymen by a case reported in a French medical journal some years ago. The reporter, a Swiss physician, was consulted by a young woman on account of severe pain during sexual intercourse. Her story was that several years before, having occasion to take a lover, during first connection she suffered severely and lost considerable blood; this repeated itself during several subsequent attempts, in none of which complete intromission of the male organ was effected. Finally, however, the lover succeeded in inserting his whole penis, and pain and hemorrhage ceased. Shortly before consulting the doctor, she changed lovers, and at the first attempt with the new-comer the same old pain and bleeding occurred, and persisted on several subsequent occasions. Hence she decided to consult a physician. An examination showed the vaginal orifice covered by the hymen, which was completely detached except near the symphysis pubis, where a small bridge still preserved the vitality of the membrane, and a small circular opening, admitting one finger, with firm but elastic border. Underneath this loose hymen the vaginal orifice was roomy and capacious. Inserting the finger into the hymeneal opening, and sharply pushing the hymen upward into the vagina so as to stretch its sole remaining attachment, the girl complained of the pain as identical with that experienced during coition. The physician's explanation of the case was the following: The first lover's penis, being too large to penetrate and tear the central opening of the hymen, gradually tore the membrane from all its attachments, causing much pain and bleeding; but once the hymen torn loose and only hanging by one small attachment above, the penis readily entered the vagina underneath it, and all pain and bleeding ceased. Lover No. two, however, had a small penis, and, not knowing by experience the proper direction to take, his glans was caught in the small central orifice of the hymen and the old symptoms were reproduced. The reporter naively adds that, unless the obstacle were removed, the lover would run the risk of carrying off the hymen on his glans, as a knight of old bore off a trophy on his lance. To avoid such a dire result, the doctor decided to remove the
offending hymen, which he did by tying and cutting off the narrow attachment.

In my two cases there was no occasion for such treatment, since the malformation produced no symptoms.

I have produced the plate and narrated the cases merely as curiosities, and possibly with the hope of interesting those of the profession whose practice gives them opportunities, in the observation and study of the hymen, present and past, and its injuries.

STERILITY IN WOMAN: ITS ETIOLOGY AND TREATMENT.

BY

E. S. McKee, M.D., Cincinnati.

It is only in rare instances that the lack of descendants is not sooner or later regretted by both husband and wife, and it often proves an open door to marital discord and reproaches with all their evil consequences. Sterility among the old Romans and Israelites was sufficient cause for dissolution of the marriage relation. Instances of human sterility due to want of sexual harmony are exceedingly rare, and most cases supposed to be of this nature can be otherwise explained. The etiology of primary sterility is often "shrouded in darkness," and the successful treatment of the same past finding out.

Sterility in man must necessarily be eliminated before we can hope to discover the source of unfruitful marriages in woman. Gross has proved that man is not able to beget children in almost all instances, as formerly believed. His statement that one case in six is due to sterility on the part of the male is probably too strong, yet it is not greatly wide of the mark. Kehrer, after a series of carefully conducted experiments, has arrived at the conclusion "that in at least a third of the cases of sterile marriages the husband was the party at fault, and gonorrhea the cause of the barrenness."

The most frequent origin of sterility is, perhaps, intra-uterine disease, and chronic endometritis is its usual manifestation. This disorder gives rise to the characteristic gelatinous discharge, thus hindering the ingress of the spermatozoa by destroying
their vitality. Endometritis renders the mucous membrane unfit for the fixation and development of the ovum. This diseased condition of the intra-uterine mucous membrane may extend into the Fallopian tubes and obliterate their orifice, so as to prevent the admission of the spermatic fluid. It is well known that constitutional causes, more especially the serofulous diathesis, have much to do with these inflammations; also cold and heat, overfeeding and underfeeding, youth and old age, decline of general health, and confinement.

Diligent study of the subject of sterility demonstrates that inflammations of the pelvic peritoneum and of the parametria, or rather their consequences, are among the most frequent causes of sterility.

Anatomical researches often find such considerable adhesions between oviducts, ovary, uterus, and rectum that conception would be an absolute impossibility; yet other adhesions exist which might not prevent impregnation.

Three questions are to be determined: (1) Are spermatozoa in the semen? (2) Do they get into the utero-cervical canal? (3) Do the secretions in the canal poison the spermatozoa?

Levy, of Munich, made microscopical examinations of the condition of the spermatozoa, at different intervals after coitus, in sixty women who were under treatment for sterility. In fifty-seven, catarrh was present. In all of these cases, only a small number of spermatozoa were found within the uteruses, and they were all motionless within five hours after coitus. In healthy women he had found that the movements of the spermatozoa within the uterus continued for at least thirty-six hours. It is probable that if the secretions are normal the spermatozoa can make their way into the uteruses in spite of flexions or stenosis.

Physiologists tell us that the healthy spermatozoid in a normal vagina may live and retain its vitality for 7 or 8 days; that its lateral diameter is \( \frac{1}{42} \) of an inch, and that it will be able to penetrate any orifice through which a red blood corpuscle can pass. Its rate of travel is about 7\( \frac{1}{2} \) inches an hour, 16 feet in a day, and 30 or 40 yards in its lifetime. These facts would lead us to doubt if long or narrow, or ante- or retroflexed, cervixes could primarily have anything to do with sterility, and to conclude that the condition of the secretions has great influence.

Vulvar or vaginal hyperesthesia, inflammation of the carunculae myrtiformes, undue shortness of the vagina, unless great
care is exercised by the husband, will induce dyspareunia and may bring about sterility by favoring the formation of a copulative sac outside the axis of the uterine canal, and consequent misdirection of the semen.

Infantile uteri and other malformations are frequent causes. Malformations of the vaginal portion often prevent conception in women as well as in animals.

A Chicago professor stated in a clinical lecture that his observation had been that, in sterile women, the hair on the mons veneris was always straight. That curling the hair would cure the sterility was not demonstrated.

Premature and post-mature marriages tend to sterility. The infertility of heiresses is well known, and, if inherited sterility be not a contradiction of terms, this fact demonstrates its possibility.

The female being less passionate than the male, the orgasm results later with her, or the male orgasm occurring so soon she may not reach that stage at all. If both were simultaneous, it is reasonable to suppose that conception would be more liable to occur.

Obesity is especially regarded as a potent factor in sterility, and the state of the nutrition in women, as in plants and animals, has long been known to have this tendency. The connection between sterility and obesity has been explained by some as the result of the direct pressure of the fat upon the ovaries. The more plausible theory is that the extensive disposition of fat detracts from the developmental process in these organs. The interference with menstruation often observed in fleshy persons bears out this theory. It is probable that the ovaries are not organically affected by this condition, as the normal menstrual flow generally returns when the obesity disappears. Examination of the ovaries under chloroform in obese persons will show these organs intact, so it is probable that sterility is indirectly caused, in this condition, through the hindrance to the expulsion of the ova, and not their development. The injurious influence of excessive flesh in women, as regards child-bearing, is universally admitted, and is corroborated by experience with plants and the lower animals. When obesity attains a condition of polysare, it has a great influence on generation. In the male, its early development checks the growth of the genital organs, and, if late, diminishes sexual desire. The accumulation of fat in the
abdomen is claimed by some to exercise an injurious pressure on the utero-ovarian apparatus.

The hypertrophied condition of the external genitals may form a mechanical hindrance to impregnation. Given an obese woman, we will generally find that the prospects of offspring will depend more upon the menses than upon the amount of fat, amenorrheic fat women being usually sterile. Statistics show a diminished fertility during famine, but it is only ephemeral. Thinness only affects fertility when it is dependent upon some chronic disease.

The luxurious habits and overfeeding of the wealthy diminish fertility, while this condition is favored by the life of the poorer classes. The relative fertility is stated by Marshall Hall as six to one.

Chlorotic women often conceive, and sterile women just as often show no other cause for their sterility than chlorosis. Scrofula—probably by its effect on the general system, leading to deficient development of the entire body, genitals included—may be productive of sterility. Tuberculosis is probably, in all except its later stages, without influence on sterility in women. Alcoholism is considered a cause of sterility. It evidently does diminish sexual potency in the male, and for this the female is often blamed. By causing general constitutional disorder and a chronic inflammation of the ovaries, it probably does occasion a certain amount of sterility. Yet we see numerous instances of parents, addicted to the abuse of alcohol, who have large families of very ragged children.

Carcinoma cervicis uteri is an important obstacle to conception. When the growth has advanced to any degree, even if confined to only one wall, the cervical canal is mechanically stopped, and the corrosive fluid which accompanies ulceration has a deleterious effect upon the sperm.

The higher education of women has been held to be a factor in the production of sterility. However, the experiment is one of rather too recent date to be of much certain value.

Ovulation is doubtless more frequently performed in some women than in others. Some conceive with more or less regularity every fifteen or eighteen months, and others at intervals of several years.

Dysmenorrhea among the fertile is comparatively uncommon. Nearly half of the sterile women suffer from dysmenorrhea.
The association of this neurosis with sterility is not unimportant. We often also have the return of semen and derangement of sexual orgasm or coitus, and the cure of the dysmenorrhea is a direct step towards the cure of the sterility. Some claim that two out of five cases of sterility are accompanied by spasmodic dysmenorrhea. Emmet, in his tables, shows that of all married women who suffered pain during menstruation at puberty, seventy-one per cent were sterile.

Venereal diseases have their share of influence, and the gonorrheal affection is a potent cause of sterility. It is by no means proven that syphilis has any unfavorable influence on conception, though the frequent abortions due to this or other causes may have this effect. Syphilis is often associated with gonorrhea, which is the real cause. Gonorrhea often prevents conception by the inflammation travelling up the womb along the Fallopian tubes, which renders the covering of the ovaries thick and tense, so that the ovum cannot escape, or, if it does, the fimbriated extremity of the tube is so agglutinated that it cannot rise up to grasp the ovum. The extreme view of Noeggerath, that the wives of men who have had gonorrhea as a rule remain sterile, has not been extensively accepted by the profession. The truth is, if gonorrheal salpingitis results, sterility is the consequence.

Reflux of semen after coition was described as a cause of sterility by Hippocrates and Soranus, and is probably a frequent origin, though many women must base their complaints on a delusion. This profluvium seminis is rarely complained of except by the sterile, and is infrequent among the fertile. It is also believed to be common among those sterile women who have no sexual pleasure. It is probable that the mucus discharge of the glands of Cowper and Duvernay is in some cases mistaken for semen.

The vaginal secretions under certain pathological conditions become so acid that they induce sterility. Women who suffer from severe vaginal catarrh are frequently sterile, the spermatozoa being found dead in the vagina some hours after copulation, though examination a shorter time afterward revealed them still alive. This vaginal secretion, the materii pceecans, may also act in a mechanical way. In cases where conception occurs despite a very acid condition of the vaginal secretion, it is probable that some of the spermatozoa enter the uterus before the
secretion has time to act on them; or possibly, the spermatozoa being injected in a mass, the acid secretion is unable to penetrate and kill all.

Sexual incompatibility is well known to exist, prominent examples being Augustus and Livia, Napoleon and Josephine. A case is reported by Duncan where a man married successively three childless widows and had children by each, and another where a woman is married during child-bearing limits to three men successively, and has children by but one of them. Sterility from sexual incompatibility cannot be foreseen or prevented, and religion, morals, and law interdict the cure which might result from a change of husband. Among some classes in Wales and Scotland, for instance, custom permits and local morals do not condemn a practice which produces many illustrations of this mutual incompatibility. This practice is called "bundling" or "keeping company," and consists in permitting young girls to cohabit with an eligible man, with the understanding that if pregnancy ensues the legal marriage tie is made. Progeny not resulting, the woman is deserted by her friend and falls to another, with whom the result may be different. Want of sexual unity, the so-called relative sterility, is the condition in which long and regular cohabitation between two individuals remains without result, though each one can procreate with other persons. Some long sterile marriages are dissolved, and both man and woman produce children in another union.

Duncan has found that relatively more women who marry between the ages of 15 and 20 are sterile than those who marry after 20.

Sexual sensations, lack of participation or feelings, seem to have no special influence on conception. Many women who have no passion conceive rapidly, others who have may not conceive at all. Dyspareunia and frigidity do not play an important rôle in sterility, though they doubtless have a bearing in some cases. Among prostitutes, the frequent delay of menstruation, then abundant hemorrhage, is in many cases only habitual abortion, and leads to changes in the genitals which must result in sterility. The effect of nervous or psychic influence on sterility through its suppression of menstruation merits further investigation.

The Druidic College of the twelfth century considered tannin a most potent cause of sterility, hence excessive tea-drinking
might act in the same way. Sulphur is also believed to have the same effect.

Such dislocations of the cervix may occur that instead of lying in a pool of semen, as it should, it is above, in front, or away from it, and this may prevent conception. Sterility can be occasioned, when necessary, by obliterating the uterine extremities of the Fallopian tubes with the thermo-cautery.

The universal prolificness of the human race in Arkansas is well known. When you ask down there why they have so many children, they reply that the mosquitoes are so bad that they cannot sleep at night. That mosquitoes are a stimulant to reproduction is hardly proved, but that they act indirectly is firmly believed in Arkansas.

Mantagazza, Budin, and Bailey wrote that consanguineous marriages tend towards sterility. Darwin, after a most careful investigation, using as his guide Burke's "Landed Gentry" and "Peerage," finds that consanguineous marriages are slightly more fertile than non-consanguineous. He is of the opinion that this is because marriage between first cousins is more apt to take place when there is a large group of persons who bear this relationship to each other, and thus fertility becomes hereditary. The alleged infertility of consanguineous marriages cannot be substantiated.

TREATMENT.

The cure of sterility is not the easiest and most encouraging task in gynecology. Our imperfect knowledge of the etiology of the condition is one of the first and greatest difficulties; yet in this, as in many other troubles, the treatment consists in the removal of the cause. Our knowledge of sterility has grown with our progress in gynecology, but the growth is not satisfactory, because it rests on no sure foundation. Logic here, as in many other departments of therapeutics, has not been closely followed. Post hoc and propter hoc have been confused. A coincidence has too often been considered a consequence; for in the present age, as in the past, the reputation of remedies is based more upon faith than upon evidence. We should understand the nature of the trouble in hand, and the remedies to combat it, then place a limit to our faith and expectations.

Vaginismus should receive that constitutional treatment indicated in all nervous and hysterical disorders, and will often yield greatly to simply stretching the vagina and pubic nerve.
Women addicted to the use of alcoholic stimulants have been known to become pregnant on the adoption of habits of teetotalism.

Fevers have been known to be followed by relief from sterility. The philosophy of this cannot be explained, for fevers are known to disorder the ovarian and uterine functions. They probably result in some change of the general health, and perhaps prolonged continence has an influence.

Duplexity of the vagina, interfering with cohabitation, may be a cause of sterility, as the septum may make cohabitation difficult, or the larger vagina which receives the penis may end in a blunt sac. Incision of the septum is the treatment in either case.

Obesity, a frequent cause of amenorrhea and sterility, is treated by a rigid diet. If the obesity diminishes, the menses increase and the woman frequently conceives. For success the earnest co-operation of the patient is essential.

The presence of the hymen sometimes requires attention, as does also a hyperesthetic condition of the vagina. If the woman is anesthetized, the so-called ethereal connection and sexual intercourse perfected once or twice, there will seldom be much trouble afterwards. Treatment is very difficult; the nervous symptoms of vaginismus are present, especially if they rest on a hysterical basis. Dilatation must be very carefully and gradually effected.

Endometritis must be cured. This is often more easily said than done. The more radical treatment of recent years promises a more favorable prognosis for sterility. It is not unusual to see women who have long been sterile immediately conceive after curettage of the uterus for endometritis. In sterility from chronic cervical endometritis, I have had good success from painting the cervical canal with a solution recommended to me by Dr. Clement Godson, of St. Bartholomew's Hospital. This consists of perchloride of iron one part, glycerin three parts. A cure often results and conception is not infrequent. Often dependent on constitutional causes, treatment to this end is effective in these intra-uterine inflammations.

Dilatation of the cervix may be done either slowly or rapidly. Much controversy exists as to which is the better method. If we look over the testimony, we will find that both methods are temporarily successful; that all are followed sooner or later by a return of the stenosis; that the dysmenorrhea has been re-
lieved in a larger or a smaller number, and that a small percentage of cases in both operations are followed by endometritis, pelvic cellulitis, or peritonitis; that dysmenorrhea disappears in many and sterility in a small number of instances.

Outerbridge, last spring, introduced an instrument for the cure of sterility, which consisted of a continuous steel wire, made so as to form an anterior and a posterior blade, with a slight eversion at one end, the other bent at right angles. This instrument is to be inserted into the cervical canal in cases where it is not sufficiently patent. The instrument varies in length from one to three inches, is tempered to give it strength, and is silver or gold plated, assuring safety.

Sterility due to flexions of the uterus must be treated by raising the organ and lessening the amount of constriction. This is best accomplished by re-establishing the normal relative positions of the uterine body and cervix.

Catheterization of the Fallopian tubes, in the hands of an experienced operator, is a feasible and in some instances an effec-
tual method of treating certain cases of dysmenorrhea and sterility otherwise incurable.

Sea-bathing seems to have an inexplicably beneficial effect on many stubborn cases, as also have mineral waters and residence at watering places. Among those highly recommended are Schwalbach, Spa, Franzensbad, Ems, and Marienbad.

The crystalline phosphide of zinc, one-eighth of a grain morning and evening, is highly recommended.

Belladonna has the reputation of promoting conception, but has not been very successful in my hands.

The avoidance of tea-drinking and the ingestion of tannin and sulphur are to be advised.

Cohnstein thinks there is a time with every woman, at more or less greater intervals, which he terms the period of predilec-
tion for fecundation. This may be a certain month or season of the year.

A medication which raises the nutrition of the entire organism, improves the blood formation, and favors the resorption of the pathological products in the sexual organs, is the indication needed.

Should the husband endeavor to rouse the sexual passions of the wife before the sexual act is undertaken, the orgasms would occur more nearly together, and conception be more apt to follow.
The outflow of the semen from the vagina is not so frequent a cause of sterility as imagined, though it does act in this way. The woman should have her hips in an elevated position during coition, so that the vault of the vagina is lower than the introitus. The penis should be allowed to remain as long as possible in the vagina, forming an obstacle to the escape of the semen. Crossing the legs and remaining quiet in this position may also help retention. It is also recommended that immediately after intercourse the abdominal wall be elevated, so as to exercise an aspirating force upon the semen. It is well for the woman to take the knee-chest position immediately after the completion of sexual intercourse. Perineorrhaphy is frequently necessary for the prevention of this reflux.

Artificial impregnation should be done as a last resort in otherwise hopeless cases. If properly carried out, it is not dangerous to life and may result successfully. There are no real moral reasons against it, but it is disagreeable for all concerned. Marion Sims, who first used this method on the human being, found it to succeed only once in twenty-seven cases. Most gynecologists have met with no result at all. First we should have the semen examined microscopically. Absence or paucity of the zoosperms, the presence of many dead or deformed ones, especially the presence of pus cells, contra-indicate operation. The procedure should follow an alkaline vaginal injection—phosphate of soda being recommended—which neutralizes the effect of the vaginal secretions. Sexual intercourse should then take place promptly, as the obnoxious secretions may be reproduced. The syringe should be new and free from infectious matter, and filled with the alkaline solution. It should be brought exactly to the temperature of the body by placing it in water at that temperature, or placed in the vagina for some time previous to use. The semen can be taken up by suction into the syringe, which should be done very slowly. It can be collected by the aid of a speculum, or the semen can be very nicely preserved from the secretions of the vagina by the use of a condom, which also makes it easier to obtain the fluid. The nozzle of the syringe should be passed up to the fundus of the uterus. A few drops are all sufficient, but a larger mass will do no harm. After the injection the woman should lie quiet for a time. The operation should be made during that period when the woman is most easily impregnated, near the
menses. Objections urged on purely ethical grounds may well be left to the parties chiefly concerned, the husband and the wife. If the wife objects to the physician taking part in her impregnation, the husband can be carefully instructed and may be able to carry out the matter himself. The operation is not necessarily condemned by either morality or religion; it is justified by the essentially legitimate and essentially moral desire to beget children.

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AN EPIDEMIC OF PEMPHIGUS NEONATORUM.

BY

E. B. KILHAM, M.D.,

Resident Physician New York Infirmary for Women and Children.

An account of a recent epidemic of pemphigus neonatorum at the Infirmary for Women and Children may have some interest for the profession, such epidemics being apparently very rare in this country. The infant of the first patient delivered after the house was reopened last autumn developed on the third day an eruption of vesicles on the arms, legs, and abdomen. This was at first considered syphilitic, but the child, though rather delicate, evinced no other symptoms of syphilis, and three weeks later was apparently perfectly healthy. During the following month, eleven children were born, and of these, all but three developed pemphigus. The course of the disease was about the same in all cases, appearing on the third or fourth day after birth, in one case on the second day. The vesicles developed rapidly, were in shape round or oval, from the size of a pin head to that of a dime, and situated on a reddish base. The contents, at first clear, became purulent on the second day. When undisturbed, the fluid was reabsorbed; but oftener the vesicles were opened by friction. The epidermis dried quickly. The fluid was alkaline in reaction, and by the microscope
showed blood cells and pus corpuscles. A careful examination was made for bacilli, but with negative results. Each crop of vesicles lasted from a few hours to two days, and was succeeded by a fresh crop. All parts of the body, with the exception of the soles of the feet and palms of the hand, were affected, but especially the abdomen and inner surface of the thighs. In this particular the disease presented a marked contrast to the ordinary syphilitic pemphigus, in which the hands and feet are first affected.

In two cases there was slight paronychia. The disease ran its course in from one to three weeks. It seemed to be a purely local process; no rise of temperature or loss of weight occurred. The babies were of average or above the average weight, and healthy in every other respect. In only one case, in which the loss of epidermis was very great, was there unusual fretfulness. One infant, isolated on account of a purulent conjunctivitis, escaped. Another, also isolated, escaped with a single bleb. Two who were exposed manifested no trace of the disorder. The epidemic died out gradually, a baby born the 1st of October presenting a single bleb. No further cases were observed until December, when an unusually fine, healthy child developed a single crop of vesicles on the abdomen. Since then there have been no cases.

An outbreak of pemphigus similar to this occurred at the Infirmary two years ago, six children only being affected and to a much less extent. I am unable to find any literature on the subject in American, and very little in English works, though many sporadic cases have been reported, and also cases of syphilitic pemphigus. Very remarkable epidemics have occurred from time to time in the great Maternities on the Continent, the most noteworthy of these being the one in Paris in 1867, reported by Herriex, in which one hundred and fifty cases were observed (Union Médicale, 1868, No. 30); the one in 1869 in Halle, of one hundred cases, reported by Olshausen (Archiv f. Gynäk., 1870, 1.); and the one in Dresden in 1878–9, in which one hundred and sixty-six cases were reported by Winckel ("Berichte aus d. k. sächs. Entbindungs-Institut," 1879, III.).

Olshausen, Koch, and Dohrn report epidemics following in the wake of certain midwives, one woman enjoying the experience of twenty-three cases in her practice, while two hun
dred infants delivered by other midwives in the same city escaped. All observers agree that the season of the year, sex and constitution of the child, have no effect either upon the development of the disease or its usual benign course. Regarding the etiology of the disease, the question still hangs in the balance. Henoch states that he has seen only sporadic cases. Bohn' regards it as only the desquamation which occurs physiologically during the first week, enormously increased by some external irritation, as, for instance, baths of too high a temperature.

Among those who have personally observed the disease in institutions, the weight of opinion is decidedly in favor of its being contagious. Numerous experiments have been tried in inoculating both the lower animals and man, but with unsatisfactory results. In three cases, inoculation produced a single bleb, but no crop of vesicles. In several cases, mothers have developed single blebs on the breasts, and nurses upon the fingers. The bacillus is said to have been discovered by Birch-Hirschfeld, and in 1881 by Gibier.

The outbreak at the Infirmary cannot be attributed to a habit of giving too hot baths, as the temperature of the water is always carefully measured. Great care is also taken regarding cleanliness and the protection of the soft skin from mechanical irritation.

Against the common assumption that pemphigus in the newborn is always syphilitic may be urged that there are no other signs of syphilis and that recovery takes place without medication.

1 "Handbuch der Kinderkrankheiten," Gerhardt.

66
A CASE OF EXTRA-UTERINE PREGNANCY; OPERATION; RECOVERY.1

BY
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Danville, Ky.

My purpose in reporting the following case is to illustrate some essential features in the pathology and symptomatology of extra-uterine pregnancy, and, at the same time, to emphasize the necessity of prompt operative interference. At our meeting in Washington last year, this subject was more carefully considered and more thoroughly elucidated than in any previous discussion of the urgent questions involved. It is at the present time one of the most interesting and important practical subjects to which the attention of the profession can be directed.

Mrs. W. S. E., aged 28 years, gave birth to her first child on the 8th of December, 1888. On the 8th of March, 1889, notwithstanding the fact that she was nursing, the catamenia returned. She also menstruated in April and May, and in June missed her period and exhibited some of the rational signs of pregnancy. On the 26th day of June, she suffered a violent paroxysm of pelvic pain. The pain was very severe, paroxysmal, and long-continued. Very soon after this paroxysm uterine hemorrhage appeared. The flow varied at times as to quantity, and was lighter than the normal menstrual discharge. This discharge, slight at first, increased in quantity on the following day. On the 28th, a second paroxysm of pain occurred, less severe than the preceding one, and the uterine flow increased and continued for a week. Then there was a week free from pain and hemorrhage. The milk returned to the breasts and the patient arose from bed. At the end of a week, she was again seized with a violent paroxysm of pain, and uterine hemorrhage recurred. For a week there was daily paroxysmal pain of diminished severity, when once again a period of apparent relief came. On the 27th of July, she suffered pain of unusual severity, with symptoms of shock and collapse. On the 29th, I was called to see her for the first time, and her husband, a prominent young physician of a Southern city, was summoned by telegraph. Having been at her bedside during the onset, her husband was lulled into an over-confident security by the apparent relief which followed the first

1 Presented to the American Association of Obstetricians and Gynecologists, September 17th to 19th, 1889.
paroxysm, and had returned to his home and duties. From him I obtained the very accurate history of the case detailed above. I found the patient pale and feeble from loss of blood, with pinched features, rapid pulse, and serous vomiting. The abdomen was distended and tender, and the lower limbs drawn upward. The pelvis was filled with blood, and peritonitis had supervened. The uterus was pushed to the left side and the bloody flow was continuous. I proposed immediate operation, which was performed on the morning of July 30th, after consultation with Drs. William Huffman and Bush, of Lancaster, Ky., who were in attendance and gave me every possible aid in the operation and care of the patient afterward. Dr. J. B. Kinnaird, of Lancaster, was also present at the operation and rendered valuable assistance. On opening the abdomen, large blood clots presented; the pelvis was filled with clot. This was quickly turned out, and I sought the fundus uteri with my fingers. The fetal ball was found on the right side, with ruptured tube. All was securely tied away and removed, the abdomen cleansed with hot water, drainage tube inserted, and abdomen closed. Length of incision, three inches; patient on the table thirty-four minutes. Nausea and vomiting, which had been such conspicuous and distressing symptoms for two days preceding the operation, persisted for twenty-four hours, but subsided and disappeared after the bowels were thoroughly moved by several small doses of calomel.

The progress of the case was uninterrupted. The drainage tube was removed on the fourth day, and convalescence was prompt. This lady is now quite restored to good health.

Recalling the history of the case as I have narrated it, you will see that the first attack of pain was from rupture of the Fallopian tube. Then there was a respite from pain and apparent relief for a time, when the fetal sac broke, allowing the fetus to escape into the abdomen and filling the abdomen with blood.

The great practical lesson conveyed by this case is that the medical attendant should urge prompt interference by abdominal section in cases presenting these symptoms. An entire month elapsed between the time this lady was first attacked with violent paroxysms of sickening pelvic pain and the operation for her relief. The operation was then performed upon an exsanguinated patient with peritonitis established. When the diagnosis is questionable, the trivial risk of an exploratory incision is not to be compared to the immense peril of delay.

A London weekly of recent date announced that three operations for extra-uterine pregnancy had been performed during
the week in one district of the metropolis. A distinguished Fellow of this Association within three years past has operated in sixteen cases. Formad, of Philadelphia, states that within a brief period of his service as coroner's physician he found, post-mortem, eighteen deaths from ruptured tubal pregnancy. From these facts it is apparent how frequently this condition obtains. In this great country of ours, with its teeming millions scattered over the vast area of the States, who can approximate the number of women dying annually of ruptured tubal pregnancy diagnosed and treated as "idiopathic peritonitis," "accidental hemorrhage," etc.? In these cases, everything as to results depends upon prompt surgical interference; realizing which, let us appeal to the great body of the profession to recognize this important advance in pelvic surgery, and rescue the patient by abdominal section, instead of consigning her to the so-called conservative fate of opium euthanasia, toying with electricity, or applying expectant methods.

CORRESPONDENCE.

THE FLAP-SPLITTING OPERATION FOR LACERATED PERINEUM.

To the Editor of the American Journal of Obstetrics.

Dr. Paul F. Mundé:

Sir:—I have much pleasure in acknowledging the complete account of my operation for lacerated perineum which you have been kind enough to publish in the July number of your Journal, and I have only to make one slight correction upon a matter which really is of very little importance. It never serves any very good purpose to make claims for precedence, and I waive all such discussions; but as you unwittingly make me do myself an injustice, you will perhaps condone my proceedings in this instance. You say that I attribute the operation to a countryman of my own, Colles; that is not so. I attribute another operation to Colles in which the principle of flap-splitting is more evident than in the perineum operation. I was under the impression that I wa
Correspondence.

original in performing the operation for vesico-vaginal fistula by the principle of flap-splitting, but I found that it had been completely described by a very old and dear friend of mine, the late Dr. Maurice Colles, of Dublin. His paper in the *Dublin Medical Journal* for 1861 puts all question of precedence on this point aside forever; but no suggestion occurs in Colles' paper about applying the principle to the perineum, and the curious point is that I developed my proceedings from the perineum first and then applied them to the operation for vesico-vaginal fistula, quite independently of Dr. Colles' paper, which I confess to my fault I had never seen. But that does not in the least degree affect the priority of the principle in the perineum operation, where the details of its application are essentially different.

I am, etc.,

**Lawson Tait.**

BIRMINGHAM, August 6th, 1889.

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**DR. MILLER'S LAPARATOMY RECORD.**

To the Editor of the *American Journal of Obstetrics.*

SIR:—Your July number contains "A Year's Record of Seventy-five Cases of Abdominal Section," by B. Curtis Miller, M.D., of Charleston, West Va.

My first impression, after reading said "record," was that it was designed as a travesty on the frequency and recklessness with which the operations detailed in the report have been performed during the past five years, but, on a more close examination, I am convinced the author intended it to be accepted as a correct report of what he actually did, and that it would be considered by the profession generally as a very brilliant feat of gynecological surgery.

Assuming such to be the case, I am reluctantly constrained to say the report, as a whole and in detail, is simply astounding and to me incomprehensible. Forty-two women spayed, unsexed, mutilated in one year, in a small, out-of-the-way town in West Virginia!

If such an experience had been detailed by a noted gynecologist in any one of the great commercial centres of the country, it
would have provoked a good deal of astonishment; but to be informed that within the period of one year, in a small town of a few thousand inhabitants, forty-two women had been subjected to operations detailed in Dr. Miller's report, simply overpowers me with astonishment.

What is the explanation? Are the cases he details of such extraordinary frequency in the neighborhood of Charleston? Do they occur epidemically? Has Dr. Miller acquired such a reputation as to induce patients of that class to seek his aid from all parts of this country? Is it possible that the State of West Virginia can furnish forty-two women annually who are so unfortunate as to require such mutilations? God forbid!

When we come to analyze the clinical data (?) in the several cases in which the uterine appendages were removed, our amazement increases in degree.

I venture to say as a clinical record it has no parallel in clinical medicine, and for audacious and reckless surgical procedure is almost beyond belief.

Dr. Miller is to be congratulated upon his not losing a single case. All recovered immediately. Even the fat woman, whose general health was good prior to the operation and who weighed two hundred and fifty pounds, recovered rapidly after losing her ovaries. The twenty-seven who lost either their "tubes" or ovaries, or both, went forth well, happy, and free, rejoicing in the consciousness that they had no naughty "tubes" or ovaries to make their lives miserable in the future.

The surprise and incredulity manifested in this communication at Dr. Miller's record or report will be more fully understood and appreciated by giving a brief statement of my own clinical experience in contrast with that of Dr. Miller.

I have been practising medicine and surgery almost continuously for forty years. During the last fifteen years of that time, my practice has been largely gynecological. I have examined and treated a great many women for various diseases peculiar to their sex. Among the cases which came under observation were now and then a case of ovaritis, some cases of salpingitis, a few cases of hydro-salpinx, and a very few cases of pyo-salpingitis. I can call to mind one or two cases of hydro-salpinx in which the diagnosis could not have been wrong, for the reason that the water was discharged periodically through the uterus. I can recall two or three cases of pyo-salpingitis in which the diagnosis was made in the same way and was equally unequivocal. All these cases are living to-day, enjoying good health. I recall one
case in particular in which pyo-salpingitis developed twenty years ago, and the subject of it is enjoying good health to-day, over seventy years of age.

None of the cases of ovaritis or of disease of the tubes have been operated upon by me or anybody else. In short, of the hundreds of cases that have come under my observation, not a single one of them has required laparotomy for the relief of chronic or suppurative inflammation of the tubes or ovaries. I of course do not include cases of ovariotomy.

I do not wish to be understood as claiming that removal of the uterine appendages is not a legitimate operation, but do claim it has proper limitations; and that, under the modern craze for operating, it has been carried beyond those limitations to a criminal extent.

This, it seems to me, has been very strongly emphasized by the operations reported from the record of Dr. Miller.

I have no personal knowledge of Dr. Miller, would not willingly do him an injury. He writes like a very clever man, and I have no doubt is a good surgeon. But I think he has been putting his surgery to an improper use; has become infatuated with an inordinate desire to operate and become a second Tait.

His report will not add any lustre to American gynecological surgery. It is hoped the doctor, as he grows older, will become wiser and more conservative.

C. TRUESDALE, M.D.,
Member Amer. Med. Assoc., etc.

Rock Island, Ill., August 10th, 1889.

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GENEVA (Sw.), August 22d, 1889.

DEAR DR. MUNDE:—The notes which have been sent to you from the Newport meeting on my instrument mix together two instruments, so as to make the article quite unintelligible (see Am. Jour. of Obstet., July, p. 749). The first seven lines concern my vesical catheter.

Then before the words "These grooves" (line 8), the writer ought to have said that in the uterine catheter the sliding part has been suppressed, and the instrument is made of one sound or rod grooved on two opposite sides.

Line 9, instead of a sound, read the. I am sure the same incorrectness must be in all the abstracts published in other journals; but you will oblige me if you have this correction made in the Am. Jour. of Obstet.

Yours faithfully,

A. CORDES.
TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY.

(Abstract.)

FOURTEENTH ANNUAL MEETING.
HELD IN BOSTON, SEPTEMBER 17TH, 18TH, AND 19TH, 1889.

First Day—Morning Session.

The Society met in the Hall of the Massachusetts Institute of Technology, and was called to order at 10 o'clock by the President, Dr. H. P. C. Wilson, of Baltimore, Md.

The Address of Welcome was delivered by Dr. J. P. Reynolds, of Boston, who, in the name of the city, old and new, welcomed its guests with open arms.

The first paper was read by Dr. H. J. Garrigues, of New York, and was entitled

The Use and Abuse of Antiseptic Injections in Obstetrical Practice.

1. When to Inject.—A vaginal injection before delivery, repeated every three hours, removes or kills enough microbes to render the canal aseptic enough for practical purposes. The vulva is disinfected separately by rubbing it with cotton soaked in the antiseptic fluid.

After delivery, the vagina should not be touched in normal cases, but only protected by the application of the antiseptic occlusion dressing.

If it has been necessary during labor to enter the uterus, or, after labor, the vagina, a vaginal or intra-uterine injection ought to be given, according to the depth to which the canal has been entered.

Intra-uterine injection is given when the fetus is macerated.

As a therapeutic measure, vaginal injection is used when the lochia are fetid.

In puerperal diphtheria, vaginal or intra-uterine injections are used before and after cauterization with chloride of zinc, corresponding to the locality affected.

Curettage is preceded by a vaginal and followed by an intra-uterine injection.

Before opening an abscess from the vagina, this organ is syringed and swabbed, and after the incision the cavity is syringed.
In peritonitis, the uterus is once well disinfected, but after that the
tatient is not disturbed.
In abortions a vaginal injection is given before removal of the
ovum, and an intra-uterine after its removal.
2. \textit{What to Inject.}—The author has collected twenty-two cases of
death from mercurial poisoning in obstetric practice. If in some the
fatal issue was due to faults in the use of the bichloride of mercury,
others are above criticism. He thinks, therefore, it should not be
used for injections. Of late he has used creolin in a two-per-cent
emulsion, and is much pleased with it, except in cases where he
wishes to judge of the condition of the interior of the womb by the
appearance of the returning fluid.
Bichloride is absolutely contra-indicated in anemia, abortion, kid-
ney disease, and diarrhea.
3. \textit{How to Inject.}—He prefers single-current tubes to double-cur-
rent tubes. Immediately after delivery, it is better to introduce it
without speculum.
Great care should be taken to go in the right direction and to the
proper depth, so as to be sure to wash out the cavity of the uterus
and not perforate its wall.
As a hemostatic, very hot fluid is needed, otherwise lukewarm is
preferable.
For intra-uterine injections, not more than two or three pints
should be used.
If the fluid ceases to return from the uterus, the can or bag of the
fountain syringe should be brought down below the level of the
bed, so as to reverse the current by siphonic action.
The fluid should be removed from the womb by squeezing it, and
from the vagina by turning the patient on her side.
The patient ought always to be on her back during an intra-ute-
rine injection.
Fountain syringes are safer than bulb syringes.
They ought not to be suspended more than one or two feet above
the uterus.
Properly administered injections are a most valuable prophylact-
ic and curative remedy, and not so difficult to handle but that
every intelligent practitioner can use them.

\textbf{Dr. Fordyce Barker,} of New York, congratulated Dr. Garrigues
on the most remarkable results he had achieved at the New York
Maternity Hospital.

\textbf{Dr. Lusk,} of New York, agreed heartily with the fundamental
principles set forth by Garrigues, together with the restrictions men-
tioned. He desired to call attention to some points regarding which
he held very decided opinions.
1st. He believes all cases of puerperal septic fever, where the poison
has entered through the vagina, to be due to neglect, on the part of
the accoucheur, of ordinary antiseptic precautions.
2d. Cases most successfully treated by the douche are those resulting
from putrid infection, from decomposing decidual shreds, blood
clois, or placental fragments; these are not true cases of septiceemia.
3d. In pure septicemia, that caused by the invasion of the system by round bacteria, the douche could only benefit at first, and could be of no use when the germs had gained access to the general system, the uterine parenchyma, the peritoneal cavity, the lymphatics of the uterus and broad ligament, etc.

When an intra-uterine douche is indicated, use it once thoroughly, then introduce an iodoform pencil, and then let the uterus alone. Do not use the douche every three hours. Do not interfere with the uterus without reason when there is localized exudation, peritonitis, etc. With repeated douching, some little of the injection fluid will remain behind each time, in spite of every care, and may readily cause symptoms of poisoning by the antiseptic used. A slight elevation of temperature, a moderately rapid pulse, are not symptoms calling for repeated douching, which if employed may do grave damage. Fever is not necessarily an indication for the douche, for it may be, and commonly is, produced by an ordinary catarrhal endometritis. Look the patient over carefully before using the douche, and be governed more by her general condition than by any one symptom.

Do not attend infectious diseases, erysipelas, diphtheria, scarlatina, etc., and care for your confinement cases at the same time, even if you do use antiseptic precautions and vaginal douches q. 3 h., for you surely will have cases of puerperal sepsis.

Be careful in your diagnosis, and remember that other fevers, as typhoid, may very closely resemble true puerperal septicemia.

Doléris and others have recently claimed that by the use of the curette, followed by the écouvillon (a small flue brush), and then irrigation, and then iodoform, they could get as good results as follow the ordinary washing out.

Dr. H. C. Coe, of New York, said the determination of the point of the septic infection was often by no means easy. He agreed that the douching should be limited to once or twice in nearly all cases. Creolin was a reliable agent; the main objection was the masking quality of its odor. He considered prophylaxis most important, but did not take quite the extreme stand of Lusk.

Dr. Wm. M. Polk, of New York, employed a method somewhat different from those of Garrignes and Lusk. He treated the inside of the genital tract much as he would the skin, first cleaning off the mucous surfaces with soap and water, and then employing a 1:5,000 bichloride solution. In puerperal sepsis, he would treat the uterus as he would any other suppurating cavity. The patient being placed on her side, the vagina washed with soap and water, the surface of the uterine cavity is to be thoroughly cleaned with the cotton swab or the curette, then washed with the bichloride solution and dried with cotton. After this, the cavity is to be packed with iodoform or creolin gauze. This is his routine treatment after abortion, and gives him the best results; only very rarely is it necessary to repeat the procedure after forty-eight hours.

Dr. Munde said that one point not sufficiently dwelt upon was the absolute necessity of ascertaining the precise source of infection before proceeding blindly to work. In these cases, one nearly always finds blood clots, placental tissue, decidual shreds, or an inflammatory villous hypertrophy of the placental site, etc. The uterine cavity should be thoroughly cleaned out. He believed in the curette and had long advocated its use. After the curette, use the douche once or twice, then stop. After using the douche, he employed ergot, the cold coil, and the antiseptic pad, and cases that were not too far
gone did well. The worst were those cases of pure septicemia where there was no pain, no cellulitis, no odor. In these, the infection had passed beyond our reach.

Frequently a patient would have a chill with a rise of temperature a half-hour after the use of the douche. This chill need cause no alarm, is traumatic, and convalescence will go on undisturbed.

After normal confinement, the use of the douche is certainly uncalled for. He agrees with Lusk that sepsis usually depends on some fault of the accoucheur.

DR. H. J. BOLDT, of New York, showed an improvement on the Fritsch-Bozeman catheter which rendered it easier to clean.

DR. A. PALMER DUDLEY, of New York, thought a cause of sepsis that was often overlooked was the presence of an unilateral pyosalpinx. This might easily light up inflammation after being subjected to the traumatism of labor. A careful examination of the tubes and ovaries in these cases might reveal the cause of the trouble and show the necessity for even laparotomy.

DR. HOWARD KELLY, of Philadelphia, in certain severe and rapidly fatal cases thought the alternative of laparotomy and removal of the entire uterus might save the patient. It would be no more severe than the Porro operation. The use of his obstetric cushion, similar to that used for laparotomy, was of the greatest value where the surroundings were dirty and poor. It kept both the patient and the bed clean and dry.

DR. E. C. GEHRUNG, of St. Louis, thought it better to use an aspirating rather than an injecting force in employing the double-current catheter, and so avoid the danger of injecting the tubes (see AM. JOUR. OF OBSTET., VOL. XIX., PAGE 698).

DR. W. GILL WYLIE, of New York, believed in frequent washing-out of the uterus, even every hour in some cases. When the trouble does not yield to washing, he often finds by careful examination that the focus of infection is in the pelvic tissues. In these cases it may be necessary to use the knife or aspirator, and evacuate the broad ligament through the vagina. In certain cases, the poison is localized in the tubes or in the peritoneal cavity, and laparotomy with washing-out of the peritoneal cavity becomes necessary, other means having failed. Sepsis is a much more frequent cause of salpingitis than gonorrhea.

DR. GARRIGUES, in closing the discussion, said: When there is fever, search over the whole body carefully, and find the cause; if about the womb, then give the injection. The distinction between the various forms of septic infection is not practical at the bedside. The use of soap and water involves exposure to the surrounding air, and the possibility of infection through it which G. thinks may occur. This risk may be removed by the subsequent douche that Polk employs. He would consider it hardly necessary to leave the gauze in the uterus after the disinfection. Chills are not common when hot water is used, but when they do occur discontinue the douche. Laparotomy after confinement must have a very limited application, both on account of objection on the part of the friends and doubt in the exact diagnosis, so that it must always be merely exploratory.

He would prefer the intra-uterine suppository to the frequent douche advocated by Wylie.
Transactions of the

DR. JOHN BYRNE, of Brooklyn, read a paper entitled

A DIGEST OF TWENTY YEARS' EXPERIENCE IN THE TREATMENT OF CANCER OF THE UTERUS BY GALVANO-CAUTERY.

The facts and suggestions offered are based solely on personal experience, and have not been published sooner because their author wished to wait for a ripe opinion.

The pioneers in this line of treatment had many difficulties to contend with in the shape of bulky, imperfect, and expensive instruments, but batteries and instruments are now greatly improved. While a practical storage battery is to be desired, he did not think it would ever be produced. The Paquinian cautery he considers an ingenious philosophical contrivance, but of little use and dangerous on account of the radiated heat.

He has operated on 367 cases of cancer of the uterus during the last twenty years; of these, 151 were lost to observation before the end of the first year. In 39 cases, the vaginal portion of the cervix alone was involved, the average period of exemption in 36 of these cases which were kept under observation being eight years and seven months, 30 remaining well for more than five years. Of 81 where the entire cervix was affected, 35 averaged five and a half years of exemption, 18 remaining well over five years. Of 8 where the disease was confined to the corpus uteri, the average period of relief was two years. Of 219 where both cervix and body were affected, 111 were lost sight of, 26 recurred within one year, and in 78 the average period of respite was three years.

In all cases of malignant nature we must include all of the vaginal cervix, or even more, no matter how small the growth. Cauterization must be thorough, no matter by what means the growth may have been removed. It is very important to impress the patient with a sense of the vital necessity of frequent examination after any operation.

The usual mode of procedure is to remove the cervix as high up as possible by the galvano-cautery loop, then to pass an instrument into the uterine cavity and thoroughly cauterize the mucous membrane, then to recauterize the cervical stump. Examine every month for a year, then less frequently. For grave cases relief is all that can be hoped for, but this is great and should be given. It is a violation of the principles of humanity to withhold from these sufferers any means which will even in part relieve them. After the operation, cachexia and anemia often temporarily disappear, and despair gives place to buoyant hope. Recurrence is less severe, in that hemorrhage, pain, and odor are all less marked, and the growth is apt to involve the ovary or lymphatics of the broad ligament.

If scissors are first used, the results do not seem to be so good. The parts must be quite dry before the cautery is used. All moisture must be wiped away and the cautery repeatedly applied until all tissue within reach is thoroughly seared. As a rule, no medication
is needed after the operation, though occasionally an opium suppository is useful, and, after a few days, cleansing douches. The deeper lying cancer cells are destroyed by less heat than will destroy normal tissue. The cautery handle should be wrapped with flannel to protect the vagina from heat, and the cautery always introduced cold and the current not turned on until it is in contact with the diseased part. Slight external burns will cause more pain than all the rest of the operation. He deprecates reckless surgery when this method gives so much better and safer results.

Dr. Reeves Jackson, of Chicago, thought the Society fortunate in having this important subject presented by one so competent. The careful records of twenty years lead to conclusions that cannot have been hastily or superficially drawn.

In the treatment of cancer we have three competing methods: amputation, cautery, and hysterectomy. We must judge these by their results, and adopt that which is best and least dangerous in any particular case. The successful removal of a cancerous uterus is very different from the successful removal of uterine cancer. Thinks after hearing Dr. B.'s paper that he shall return to the galvano-cautery. He had given up its use, because at a critical period "his fire would go out."

Dr. Thaddeus A. Reamy, of Cincinnati, dissented from some of the statements made by Dr. Byrne. The galvano-cautery is subject to the same disadvantages as other means; when the disease is beyond the os internum, then, even without any other symptom or cachexia, the galvano-cautery will not save the patient.

It is the extent to which the disease has gone that marks the limit of successful treatment, and not the particular method used. The choice of method should be conservative rather than radical. Vaginal hysterectomy he believed had a narrow but well-defined limit, and would undoubtedly save a few who could not be reached otherwise; these were cases where the fundal endometrium was involved.

While he had profound respect for the paper and its author, and believed that cancer was primarily local, he thought that the limits both of the disease and treatment were not clearly enough stated.

Dr. Byrne, in closing the discussion, said Dr. Reamy had somewhat misunderstood his views. It was impossible to assert in any given case the limits of the disease. No matter what operative means had been employed, he would use the cautery thoroughly after all the tissue that could be was removed. The influence of the cautery extended far below the surface, and it would destroy diseased tissue that could not be reached by other means. He does not claim absolute cure, but long-continued relief from all symptoms. He does not believe that we hear the true results of hysterectomy, for very many fatal cases are never recorded.

Dr. H. C. Coe, of New York, read in memoriam an eloquent tribute to the life and work of the late Dr. James B. Hunter.

First Day—Afternoon Session.

Dr. Paul F. Mundé, of New York, read a paper entitled

THE NATURE AND LIMITATION OF OPERATIVE TREATMENT FOR UTERINE FIBROIDS.

He questioned whether the pathological importance and pernicious influence of these tumors really warranted the extravagant enthusi-
asm accorded to their conservative treatment by galvanism. He did not wish to detract from the method or from the credit due its originator, but thought the relative value of the treatment exaggerated and its indications extended beyond absolute necessity. He cited cases also where severe or fatal operations had been done for innocuous fibroids. He believed that there was a tendency among the profession at large to look upon all cases of uterine fibroids as requiring treatment of some kind, and the laity were inclined to believe that any tumor was likely to kill, so that he often had difficulty in convincing a patient that her tumor, a fibroid, was comparatively harmless.

Statistics differed widely as to their frequency. His own observations during the last three years covered 2,974 cases of pelvic disease, including 123 instances of uterine fibroid, or 4.14 per cent. Of these, but 62 required treatment of any kind, the remaining 61 giving so little trouble that not even medical treatment was thought necessary. The necessity for treatment depends upon the location of the tumor and the symptoms produced. Thus subperitoneal tumors seldom call for treatment except for pressure symptoms; interstitial or submucous for pressure or menorrhagia; cervical for interference with coition, micturition, defecation, or parturition, or the bloody discharge to which they may give rise. The author then reviews the treatment adopted in the 62 cases mentioned, warns against the premature operative removal of sessile fibroids per vaginam, when a few months' oxytocic treatment will often render them easily accessible through the dilated cervix, and reaches the following conclusions:

1. On general principles the rule may be laid down that fibroid growths of the uterus, situated near the fundus uteri and showing no tendency to downward development, if requiring active treatment, are best reached from the abdominal cavity.

2. Tumors, on the other hand, situated near the internal os, and either of their own accord or under the influence of oxytocic measures showing an inclination to dilate that orifice and incroach upon the cervical canal, can almost always, after due preparation, be removed safely through the vagina.

3. About one-half of all fibroid tumors which attract the attention of their possessors, and come under the observation of the physician, require no active treatment of any kind.

4. Only interstitial and rapidly growing subperitoneal tumors call for or are benefited by galvanic treatment.

5. The removal of the hypertrophied mucous membrane of the uterine cavity by the sharp curette will often relieve, at least temporarily, the menorrhagia which is the chief symptom present in the interstitial variety.

6. Enucleation after splitting the capsule, by means of traction by the finger and some blunt instrument, usually offers a safe means of cure in cases of submucous corporeal and interstitial cervical tumors.
7. In certain cases of interstitial tumors which are so situated as not to be amenable to the pressing influence of ergot, and still affecting the general health by profuse uncontrollable hemorrhages, and again in certain cases of rapidly growing subperitoneal tumors in which a thin pedicle cannot readily be formed, the removal of the ovaries may be confidently expected to check the hemorrhage and the growth of the tumor respectively.

8. Laparo-hysterectomy should not be lightly undertaken, and should certainly never be performed merely to relieve the patient of a fibroid tumor, which does not affect her general health, and is merely inconvenient or unsightly.

9. The nearer the prospective menopause the less likely is the fibroid to grow or cause trouble, and therefore, ceteris paribus, the less are active or operative measures called for.

Dr. W. Gill Wylie, of New York, read an essay entitled

**OBSERVATIONS ON THE NATURE AND TREATMENT OF FIBROID TUMORS.**

Slow-growing tumors produce little discomfort, unless the endometrium or appendages are also involved in a morbid process. After forty years of age, small tumors of the uterine body are not usually important, though they may delay the menopause. If there are failing health and pain at about the time of the menopause, it is usually an indication that degeneration has begun, and the removal of the uterus may be indicated.

Fibroid tumors, like all organic structures, have their periods of growth, maturity, and decay. He could not state accurately, but believed that the life of a fibroid was usually from two to eight years. A tumor might be quite large and give rise to no symptoms, but should it, after a period of quietude, begin to grow again, it might require removal. Severe pressure symptoms, degeneration, or suppuration were indications for removal. Where hemorrhage from a diseased endometrium could not be controlled by the curette, the appendages should be thoroughly removed, when all bleeding will probably cease. Hysterectomy could now be done with comparative safety; his own mortality was now ten per cent, and he thought it could be lowered. He believed that the value of Apostoli’s method had been overestimated. If it did no harm, it at least caused delay, and so might lessen a patient’s chances of relief by operation. Electricity was doubtless efficient in stopping hemorrhage from fungous endometritis, but no more efficient or safe than the curette. The use of the latter, in his experience, had been absolutely safe.

As his experience in the use of electricity had not been very large, he might possibly be led to modify his opinion.

Dr. Reamy was delighted at the conservatism shown in both papers. There was too much disposition to resort to surgical procedure in almost every case of uterine fibroid. Many small interstitial and subperitoneal tumors never give symptoms, and are only
found post-mortem. Many cases do not need treatment directed toward arrest of growth. We must also recollect the fact that many recover with no treatment at all. Martin found in thirty per cent of his operative cases fatty degeneration, and, as this is the first step in the process of absorption, the inference is that these cases would have gone on to self-cure.

The presence of pus in the circumuterine tissue is not necessarily a fatal contra-indication to operative interference.

These tumors have a very feebly vascular and nerve supply, and very little will often suffice to interfere with their nutrition. Many may be relieved or cured by the persistent use of ergot, and do not need to be sent to a gynecologist. Besides interfering with the nutrition of the tumor by contracting the uterus, ergot acts in these cases as a systemic tonic; the general nutrition is greatly improved, hemorrhage is lessened, the digestion becomes stronger and constipation less troublesome.

While he had the greatest admiration for Apostoli and his method, he believed he claimed too much. In menorrhagia, the use of the sharp curet was not absolutely safe; septic symptoms sometimes followed it. He considered gentle positive galvano-cauterization equally efficient and perfectly safe. The moderate stenosis which follows is not necessarily bad, and may even be beneficial. The mild cauterization is not more damaging than the curette and not half so dangerous. Electro-puncture was far more dangerous than the use of the pole in the uterus, and should but rarely be employed.

In cases where he had removed the tubes, he had not always succeeded in arresting the growth or hemorrhage, particularly in rapidly growing fibro-cysts, which he now thought always required radical removal.

Dr. Geo. Engelmann, of St. Louis, had never recorded his results, because they did not come up to his expectations, though in many cases they were very satisfactory. He had seen several old inflammatory masses mistaken for fibroids and treated by electricity with the greatest benefit. He has treated similar conditions with good results. Has had favorable results in hemorrhagic cases. As a rule, the patient is rendered comfortable and able to attend to her duties. We should be satisfied with these results with so very safe a method. As in other things, we go through fashions in the treatment of fibroids. There is no one method. The treatment should be adapted with reference to the individual case and circumstances. Treatment by the negative pole in the uterine cavity is far preferable to puncture, which, in his experience, is apt to produce cystic growth and rapid development. Ergot is more slow and less certain than electricity in removing annoying symptoms.

Dr. James R. Chadwick, of Boston, does not think electricity so perfectly safe; has had fatal results in spite of close following of Apostoli's rules and without puncture. He has found difficulty in persuading patients to continue the treatment, and has never seen any marked diminution in the size of the tumor. His experience is not favorable, and he has given the method up. He does not agree with Dr. Reamy, and thinks any one with a panacea should be severely criticised.

Dr. Van de Warker, of Syracuse, while not accepting everything claimed for Apostoli's method, believes it to have a positive scientific value in the treatment of fibroids. He believes that electricity can promote or even initiate cystic degeneration, and has records of
several instances in which rapid cystic degeneration followed its employment, even when puncture was not used. A high temperature may follow and persist for months; believes this may be caused by a ptomaine developed by the electricity. He never employs a current strength of over two hundred milliamperes. He favors electricity, and only uses it exceptionally and carefully.

Dr. M. D. Mann, of Buffalo, regards the subject as still sub judice. He has used the method for two years, and since that time has only operated twice. He usually employs the intra-uterine sound, and sees very marked improvement in the way of diminution in size and lessened hemorrhage. Has seen bad symptoms from puncture, and only uses it exceptionally and carefully.

Dr. Mundé has had favorable results from several cases of electro-puncture where the tumor has disappeared, but twice the patients were rather seriously ill after it. Has seen peritonitis develop once after puncture; nevertheless, he believes in it, used with antisepctic precautions and under certain circumstances. He believes in Apostoli's method to a certain degree.

Dr. Wylie believes in a good steel curette.

Second Day—Morning Session.

Dr. Reeves Jackson, of Chicago, reported

A CASE OF ABDOMINAL LIPOMA SIMULATING OVARIAN TUMOR.

The patient was a multipara, previously in good health, all the functions normal, who for two years had complained of pelvic pain, abdominal enlargement, and of increasing cachexia. An elastic, semi-fluctuant tumor was found, extending from the pelvis to three inches above the umbilicus, which was considered to be ovarian. Laparatomy was done, and showed the tumor to be a lobulated lipoma springing from between the peritoneal folds of the mesentery and the retro-peritoneal space. It was not removed. The wound was closed, and the patient recovered.

These tumors are excessively rare. Péan has reported two cases: one, diagnosed as ovarian cyst, removed, weight 27 pounds; the second, diagnosed as fibro-cyst of uterus, removed, showed spots of calcareous degeneration; patients both died. Cases are also recorded by Spencer Wells: one, weight 30 pounds, laparotomy, death; Barbour, one, 20 pounds, laparotomy, recovered; Holmes, two, laparotomy, both died.

In all of these cases the tumors were retro-peritoneal, were not diagnosed before operation, and operation was followed by excessive mortality. In view of this latter fact, he was very glad that he had not attempted to remove the tumor in his case.

Drs. S. C. Gordon, C. C. Lee, and Fordyce Barker had seen similar cases, in all of which operation had been followed by death. It seemed strange that the removal of a simple lipomatous mass should prove so extremely fatal.

Dr. H. C. Coe questioned if there was not an element of malignancy in these cases. He had seen two where the gross appearances were like lipoma, but where a microscopical examination showed undoubted malignancy.
Dr. Engelmann asked were not some of the cases fatty degeneration of the omentum. If so, he could understand the great mortality following their removal.

Dr. Jackson answered that all the cases were distinct subperitoneal fatty tumors.

The President, Dr. H. P. C. Wilson, of Baltimore, then delivered the

ANNUAL ADDRESS.

After reviewing the history of the Society, telling of its achievements in the past and of its promises for the future, he asked: Shall we do laparotomy immediately before or during menstruation? His second case of laparotomy, eighteen years ago, was done during menstruation; recovery was particularly rapid. Soon after he had done oophorectomy under the same conditions with equally good result, and since had operated many times at this period and had never lost one; so that his experience led him to choose the menstrual time for laparotomy. The pelvic circulation was then active, and the derivative effect of the local bleeding seemed to lessen the chances of inflammatory trouble.

Dr. Goodell had removed ovarian tumors six times during menstruation, and the ovaries in a case of fibroma once, without ill results. He would not select that period, but would do laparotomy then if necessary. He would not like to do hysterectomy at that time, on account of the danger of hemorrhage.

Dr. Dudley thinks that in most cases there is a bloody vaginal flow after removal of the tubes or ovaries. He would be willing to operate during menstruation, but would then employ a vaginal douche to keep the vagina and external parts clean and aseptic. Had done hysterectomy at that time with good results.

Dr. Battey said there was a constant metrostaxis on the second or third day after operations upon the appendages. He had not operated on Friday or during menstruation, for the same reason—popular prejudice.

Dr. Kollock, of Cheraw, S. C., thinks menstruation acts like a drainage tube. He has long held the views expressed, but has been afraid to advocate them.

Dr. Coe and Dr. Reeves thought it important to differentiate the various operations in discussing the question.

Dr. Munde would add his testimony to those who had preceded him. He finds no difficulty from hemorrhage during operation, and no increase in the flow following it. He would not choose the menstrual period, but would not postpone operation on account of it. He would cover the vulva with the aseptic pad of Garrigues. He thinks, with Goodell, that it would be risky to remove a myomatous uterus during menstruation.

Dr. Skene said the fact that operations have been safely done during menstruation does not prove anything. Metrostaxis after laparotomy is different from menstruation. He would not think it wisdom to do laparatomy during menstruation or during the active performance of any other vital function, as digestion. The middle period was the best. Some menorrhagic cases were stronger just before menstruation, and in these there might be some advantage in operating at this time.

Dr. Wilson closed the discussion.
Dr. Eli Van de Warker, of Syracuse, read a paper entitled

AN EXPERIENCE WITH SLOUGHING INTRA-UTERINE FIBROIDS.

The following summary is based upon the facts connected with the group of five cases reported.

First. That the use of the curette to remove the sloughing periphery of an intra-uterine fibroid is proper when any complication, as excessive obesity or extreme exhaustion, renders extirpation extra-hazardous.

Second. That the process of sloughing begins at the outer layers of the mass, and extends layer by layer into its deeper structure.

Third. That rapid dilatation of the cervical canal affords ample space for the manipulations of removal; and that sponge tents and other slow methods of dilatation are unnecessary.

Fourth. That fibroids formerly intra-uterine, when extruded from the uterus and pendulous in the cavity of the cervix, with pedicle therein attached, are rarely found in a sloughing condition.

Fifth. That a form of hystero-tetanus, without trismus, may follow either certain forms of blood-poisoning or uterine lesions. Within the experience of the author, this condition, only met with in the puerperal state, was attended with septicemia.

Sixth. That blanched mucous membranes in excessive and long-continued blood loss, due to intra-uterine fibroids, afford a certain indication that the limits of safety have been reached in operative treatment of sloughing fibroids, and that a doubtful prognosis must be given.

Seventh. That septicemia, with long-continued pyrexia, is necessarily a fatal condition when due to a sloughing fibroid, unless relieved by the removal of the offending mass; that removal, wholly or in part, is a life-saving operation and is imperative; that the operation is comparatively easy and attended with but little danger, except in cases of blanched mucous membranes.

Dr. Gordon spoke of a case, aged 50, where there had been a flow for two years, with increasing cachexia, simulating malignant disease. Examination, however, disclosed a sloughing submucous fibroid, which was successfully removed by the curette. A peculiarity of the case was that there was no odor to the sloughing mass.

Dr. Mann spoke of a case of recurrent fibroid where, at the first examination, he felt a mass like a bunch of worms protruding from the cervix. A large amount of sloughing tissue was removed with forceps, and the uterus washed out every two hours; patient made a good recovery. In two months the symptoms recurred, and the operation was repeated with the same result. This was done six times. After a seventh operation by another practitioner, the patient died of sepsis. In a case, in a young girl, of an enormous submucous fibroid, with severe metrorrhagia, the ovaries and tubes were removed, with no improvement. Then galvano-puncture with two hundred milliamperes was tried. This started regular labor pains, which came on every day for about two hours. The tumor began to slough, and the os uteri became completely dilated, but the mass
was too large to be forced down. He removed by the spoon saw and morsellement the sloughing tissue as high up as the pelvic brim, and then introduced the hand and arm into the uterus and enucleated the tumor. He then tried to deliver it with the obstetric forces, but failed. He then did laparotomy, finding the uterus entirely adherent to the anterior abdominal wall, so that the peritoneal cavity was not opened, and with difficulty delivered a fibroid larger than an adult head. The patient made a good recovery, and, strange to say, still menstruates.

A sloughing fibroid is a most serious element of danger, and any method of treatment which aims at inducing sloughing is too risky to be employed.

Dr. Battey said that as sloughing fibroids were usually found at the period of life when cancer is prevalent, they might be mistaken for malignant growths, as in cases he had seen.

Dr. Kollock cited a case where a twelve-pound sloughing fibroid was removed per vaginam. Some time after, laparotomy became necessary, and the uterus, a three-months' fetus, and fifteen fibroids were removed. Patient did well for a time, and then died from sudden heart failure.

Dr. Wylie said there might be considerable change in a fibroid without odor. The first thing to do is to render the sloughing mass aseptic. Use no tampon. Many fibroids produce marked nervous symptoms even after the menopause.

Dr. Goodell said the operative removal of large tumors could not usually be accomplished at one sitting, and might require three or four. The guarded crotchet is a much better instrument than the obstetric forces with which to remove the tumors.

Dr. Van de Warker considers the natural history of these tumors to be this: First, intra-mural, then becoming submucous, then pediculated, then strangulated, the blood supply being cut off by uterine pressure and the displacement of the tumor. He believes in the curette, but does not think disinfection of the mass practicable.

Dr. Mann thinks he might be criticised, not for completing the operation, but for proceeding so far at first that it would have been dangerous to allow the mass to remain. His hand, in enucleating the sloughing tumor, had carried infection over the whole surface of the uterine cavity, and infection must have resulted at once if it were not removed. Therefore he did the laparotomy.

Dr. H. C. Coe read a paper on

DEATH FROM VISCERAL AFFECTIONS AFTER OVARIOTOMY.

The remarkable improvement in the statistics of laparotomy during the past few years proves how much the mortality can be controlled by the surgeon. Still there would always be a certain number of bad cases which would affect the statistics. Many deaths after ovariotomy seemed to be inexplicable. It was the writer’s intention to examine such cases by the light of anatomic evidence, to see if it was not sometimes possible to prevent the fatal result. To this end he had reviewed the pathological records of the Woman’s Hospital since its beginning, and had tabulated eighty-five cases in which the autopsy on fatal cases of ovariotomy had revealed serious visceral lesions which were either the direct or the indirect cause of death. Formerly deaths after ovariotomy were ascribed to eihe
shock, peritonitis, or septicemia. Only surgeons of wide experience, like Sir Spencer Wells, reported occasional deaths from visceral complications. These were more frequent than was generally supposed. They might be divided into cardiac, pulmonary, renal, and gastro-intestinal lesions. They might exist before operation or might develop subsequently. Pre-existing cardiac lesions were not uncommon. Valvular lesions, with compensatory hypertrophy, were less dangerous complications than fatty degeneration and dilatation. Patients with fatty degeneration might pass through the operation safely, but might die suddenly soon after, death being erroneously ascribed to shock or loss of blood. A heart apparently healthy before operation might undergo changes subsequently. Gusserow had ascribed several of his fatal cases of laparatomy to "brown atrophy," a condition which was frequently found in patients who had had continuous high temperature before death. Cardiac paralysis might occur from the sudden withdrawal of a large amount of blood from the circulation on removal of the tumor. Doubtless irritation of the abdominal sympathetic plexuses was a potent though obscure cause of heart failure after laparatomy. Extensive pulmonary lesions in patients with pelvic disease requiring laparatomy were often overlooked, being only noted at the autopsy. The writer had observed several cases of chronic pleurisy, phthisis, atelectasis, and emphysema in patients dying after laparatomy; in one instance, death occurred under ether from this cause. Pleurisy was a common complication. Among the direct causes of death in these cases he had noted gangrene of the lung and lobar pneumonia, while acute pleurisy was frequently found at the post-mortem table.

Renal complications were of extreme importance and were frequently overlooked by surgeons who did not make repeated examinations of the urine. The writer had noted cases of chronic interstitial and diffuse nephritis, pyelitis, pyo- and hydronephrosis, the latter following obstruction of the ureter. Some patients undoubtedly died of uremia due to chronic renal disease, with an acute exacerbation after operation. Passive congestion of the kidneys, as found after death, was of no special significance, though intense active hyperemia was of importance, especially if it occurred in organs which were previously crippled. Acute pyelitis and interstitial nephritis were serious and even fatal complications. The writer had noted one fatal case. The gastro-intestinal tract might be the seat of acute inflammation after ovariotomy, or might be affected by adhesions, the result of former peritonitis. Chronic gastric catarrh was quite common in patients with abdominal tumors. The writer had noted moderate dilatation of the stomach in several cases, and, in one, extreme dilatation resulting fatally the fifth day after operation. Intestinal obstruction from old or recent adhesions had resulted fatally in several instances. Death in one case was due to perforation of the intestine from acute ulceration. The writer summarized as follows:
A considerable number of deaths after laparotomy, ascribed to sepsis or peritonitis, are directly due to visceral affections which may have been of long standing. Such complications should always be taken into consideration both before and after the operation, and should be promptly treated. The systematic adoption of proper precautions would sensibly diminish the death rate of abdominal section.

Second Day—Afternoon Session.

DR. GEO. G. ENGELMANN, of St. Louis, presented a paper on

RENAL DISTURBANCES CAUSED BY DISEASE OF THE PELVIC VISCERA.

Ureteritis and nephritis as sequences to pelvic disease are met with, and have been recognized by all observing gynecologists as serious complications, but these conditions have not as yet received that general consideration to which they are entitled. E. desires to call attention to the various forms of nephritis which result from uterine and pelvic disease, considering more especially such cases as follow distortion or compression of the ureters.

Functional derangements and morbid changes in the kidneys may result from

I. The involvement of contiguous structures, the direct spreading of disease to ureters and bladder:
   \( a, \) from without, of pelvic inflammation or malignant growths;
   \( b, \) from within, by the mucous tract, of septic or gonorrhreal inflammation.

II. Pressure from displaced organs, pathological or physiological, by neoplasms or inflammatory products:
   \( a, \) on the bladder;
   \( b, \) on the ureters.

III. Nerve influence:
   \( a, \) reflex irritability or reflex contraction of urethra, bladder, or ureter;
   \( b, \) disturbance of innervation, influencing circulation and secretion: perverted nerve action, due to the intimate relations of renal and uterine plexus: the renal anemia of pregnancy, the edema of amenorrhea, etc.

The progress of these cases is usually slow and extremely insidious, and they are overlooked in their earlier stages, because the earlier and less violent symptoms are so blended with the backaches, bearing-down and lumbar pains of the pre-existing and more prominent pelvic trouble. Not until the renal disease is assuming serious proportions, in its later stages, is attention called to the complication by vesical and renal tenesmus, by intense renal pains, or the agony of stone or urinary suppression, perhaps the painful distention of hydronephrosis or an edema, disturbance of vision, headache, ancoma; again, we suddenly discover the lesion by an examination of the urine, to which we are led by its extreme variability—sometimes excessively scant and turbid, sometimes free and clear, mostly aci-
sometimes alkaline, and at intervals containing pus, renal cells, and a few granules or hyaline casts.

Relief is then doubtful, unless it be obtained by the removal of an obstructing tumor, and life is endangered either by suppression of urine, uremic intoxication and coma, or by the slow failing from chronic nephritis, with suffering most intense and almost constant.

Carcinoma uteri is probably the most frequent of all pelvic diseases in causing compression of the ureter and the obstructive forms of nephritis, and has been thoroughly studied in this connection, the greatest facility for observation being offered by post-mortem examination; the cases recorded are of nephritis with cystic and fibrous degeneration of the glomeruli and cardiac hypertrophy, or of hydrenephrosis and contracted kidney, death almost invariably resulting from uremia, unless previously caused by hemorrhage. Fibroid and cystic tumors of uterus or ovaries lead to pyelo-nephritis and hydrenephrosis more frequently than is generally supposed, and the renal condition should be considered far more than it generally is in determining the indications for operation. Nephritis of obstruction of milder form demands immediate ovariotomy or hysterectomy, but if far advanced contra-indicates surgical interference.

Pressure of the gravid uterus, both in pregnancy and labor, leads to a nephritis, usually of milder form, by pressure on the ureter; or to functional changes by nervous influences.

Descensus uteri, retroflexion, and prolapsus cause pressure upon the ureters near their insertion or upon the trigone itself; they draw the bladder down and expose its tissues and excretory channels to compression against the symphysis, or distort and occlude the ureters.

Inflammation of the pelvic tissues is the most dangerous condition, as it leads to very slowly developing forms of nephritis, and endangers the ureters in a variety of ways not readily diagnosed and often impossible to detect.

The compression from exudates is more evident, either from masses in the vesico-uterine space, upon the trigone and the extremities of the ureters, or extravasations in the broad ligaments, which force the ureters against the brim of the pelvis at the junction of its pelvic and abdominal portion. The ureter is most exposed in its passage through the parametria, when slight indurations or small nodules, as shown by Coe, may affect it, or it is compressed and distorted by cicatrization and contraction of tissue.

The prognosis in all such cases at the present time is serious, as they are not detected until revealed by renal pains, or pus and casts in the urine; and relief cannot readily be obtained unless this should be possible by the removal of a tumor. The result will be materially changed when they are more thoroughly understood, and attention has been more generally directed to these conditions, as they will then be more frequently recognized and detected at a time when they can still be checked.
Transactions of the

The point of obstruction is difficult to find. In lean subjects, we may feel the ureter as a thickened cord through the parieties in its abdominal portion, but that part of the pelvic portion which may be palpated, between cervix and bladder, as taught by Singer and Kelly, need show no changes when the obstruction is at the parametria or at the pelvic brim; if changed at all, they are usually attenuated. The urine is very variable by reason of the generally unilateral obstruction, and may be perfectly normal.

The treatment must first be directed to a removal of the cause—hysterectomy, ovariotomy, or absorption of inflammatory masses, as the case may be. Internal remedies afford assistance only when no cause can be detected, or when it cannot be removed. We must open the way for the excrections and afford drainage by dilating the ureter, at least passing the sound to determine the existing conditions; and we may thus remove a plug of mucus, and sometimes afford relief from pain. Should this be impossible or unsuccessful, we may treat the ureter through the bladder, either by way of a dilated urethra or a vesical opening in the trigone. Emmet, then Bozeman, have attained the desired result by stitching the ureter into the vagina and thus rendering it accessible (colpo-ureterocystotomy). If the kidney cannot be relieved through the natural channel, we must attack it direct, open and drain the pelvis of the kidney, remove concretions, or dilate the ureter from above. Removal of the offending kidney is the last resort, but feasible only if the other is healthy.

The sufferings of a woman afflicted with obstructive nephritis are such, and her fate, if not relieved, so certain and so sad, that we must resort to every means, however severe, to save her.

Dr. Polk said the kidney is most apt to cause untoward results after operation. We must never allow operative interference where there is renal insufficiency; not actual renal disease, but insufficient excretory powers. You find this class in the better walks of life in obese women, fond of the pleasures of life, whose urine is not up to the standard. These patients have degenerative changes in the heart and kidney, and any additional strain is dangerous. Prolonged etherization alone is sufficient to damage, and, together with the accompanying shock, is amply sufficient to explain many disastrous results. Chloroform is a better anesthetic for these cases. In the after-management of operative cases, the opium treatment directly conduces to many conditions producing death, by preventing the proper excretion of effete material from the system. Of the laparatomy the statistics of oöphorectomy are the best, because these patients, as a rule, have the best excretory organs.

Dr. Howard Kelly emphasized what Dr. Engelmann had said. He also urged the importance of accurate diagnosis and the value of palpation and catheterization of the ureter, facility in this procedure being readily acquired by a little practice.

Dr. B. B. Brown, of Baltimore, noted several cases where ureteral palpation had been of great value.

Dr. H. C. Coe was surprised to see how often the ureter could be compressed and pyelo-nephritis be present without symptoms. In
four cases in which he had made a careful autopsy, the kidney had been entirely destroyed, and only a small cicatrix in the broad ligament told the story of ureteral compression.  

Dr. Emmet said a common cause of trouble after labor was caused by compression of the parts in front of the uterine neck, inducing edema, and so interfering with the passage of urine through the ureters. The condition could easily be detected by bimanual palpation soon after labor. Catheterization of the ureters might help here by overcoming the edema and allowing the passage of the urine into the bladder.

Dr. S. C. Gordon, of Portland, Me., presented a paper on

**PELVIC CONGESTION VERSUS PELVIC INFLAMMATION.**

Of conditions which have given rise to dispute and misunderstanding among surgeons, none is more prominent than pelvic inflammation. The term chronic pelvic inflammation is a misnomer, for while the condition indicated by the term presents some of the phenomena of inflammation, it is not an inflammation in the proper sense of the term. Acute pelvic inflammation may recur an indefinite number of times, the result being resolution, suppuration, or an indurated mass, and it is the latter which is so often termed chronic inflammation. With the induration there is venous congestion. This causes hypernutrition and eventually hyperplasia. The pelvic tissues and organs in general may be involved, and patients so affected seem especially susceptible to renewed attacks of acute inflammation. It appears to him that such a condition existing in cases where operations upon the cervix uteri are required is not benefited by the preparatory treatment advised by Emmet as a preliminary to such operations. It seems more logical to operate upon such patients at once, relieve the passive congestion by free bleeding during the operation, and expect resolution to follow. This plan he had adopted, operations upon the cervix being preceded by thorough curetting of the uterine mucous membrane, and the method had been entirely satisfactory. It is unnecessary to say that such operations should always be performed under anesthesia. Indeed, so fearful is he of exciting pelvic inflammation that he prefers to use an anesthetic if only an intra-uterine application is to be made.

Dr. T. A. Emmet does not exactly agree with Dr. Gordon. He does not believe in chronic inflammation. Connective tissue once inflamed is destroyed, and never returns to a normal state. Inflammation beginning in the cellular tissue soon produces changes in the peritoneum overlying it. In old cases you always find the traces of peritoneal inflammation. After the cellular tissue has been inflamed it contracts, just as cicatricial tissue does in any other part of the body. The veins of the part then become straightened and often enormously dilated. This condition he tries to treat by long-continued, steady tampon pressure. There is no use in making intra-uterine applications for the treatment of the endometritis which is often present in these cases. You must relieve the outside condition which produces the uterine congestion. Care in handling any case
with dilated veins is necessary, as inflammation is very readily lighted up.

Dr. Gordon wished to call attention to the fact that many of these cases did not need a long course of preparatory treatment before operation.

Dr. Wm. M. Polk, of New York, presented a paper on

THE SURGICAL TREATMENT OF POSTERIOR DISPLACEMENTS OF THE UTERUS.

The paper considered only those forms of backward displacement which could not be benefited by pessaries. Setting aside the method of Brandt, which he as yet had had very little experience with, operative procedures fell naturally into two general classes: one indirect, dealing with the disorder from points without the peritoneal cavity; the other direct, dealing directly with it by abdominal section.

The indirect methods are: shortening the round ligaments (Alexander's operation); fixation of uterus in anteflexion by suturing its anterior wall through the anterior vaginal wall; fixation of cervix in posterior vaginal fossa.

Of these methods Alexander's is the only one needing consideration, the author's faith in it having been confirmed by fifty-two operations since June, 1883. In 1886 he said: "The operation has a limited but well-defined application; it reaches cases which without it we would abandon or else subject to graver procedures." The indications were "prolapse of the uterus, retroflexion and retroversion of the uterus (where the organ can be replaced but no pessary worn), prolapse of the ovary, the organ not being diseased enough to demand removal." These indications he now modifies somewhat. Thus in extreme cases of retroflexion, with tender and prolapsed ovaries, benefit is usually only temporary. In ovarian prolapse the benefit of the operation is questionable, because the organ is usually diseased, either singly or with an accompanying salpingitis. In retroversion the operation gives the most brilliant results. In prolapsus of any stage, as an adjunct to measures for restoring the pelvic floor, it has a distinct and most useful position, and should always be employed.

Details of operation are not considered, but the author advocates the double incision, one over each external ring.

The direct methods, used when Alexander's is insufficient or contra-indicated, are:

Sewing the fundus uteri to the abdominal wall (Thomas' operation); sewing the cornu to the abdominal wall (Sänger-Kelly operation); reeling the upper portions of the broad ligament, including the round ligament (Tait's operation); reeling the outer border of the broad ligament, excluding the round ligament (Inlach's operation); folding the round ligament (Wylie's operation); uniting the round ligaments in front of the uterus, a plan which the author has devised.

These methods fall into two distinct varieties, one creating new
supports, the other utilizing the natural supports. The author has done all of them and found none difficult. Each seems possessed of exclusive claims in certain cases, and perhaps no one can be made to answer all purposes. Of that experience must teach us, and until then the best any of us can do will be to adopt the plan which, from its simplicity and results, best serves the end in view. For the present the author's experience is that—

1. When amputation of the appendages is demanded, Mr. Tait's plan is all-sufficient.
2. When the appendages are to be saved, the choice lies between the modifications of ventral fixation, Wylie's method, and the union of the round ligaments in front of the uterus.

These plans are all-sufficient for the surgical correction of displacement, and, when the day comes in which the abdomen may be opened without risk to life, will supplant Alexander's operation.

Dr. W. H. Baker, of Boston, accepts unhesitatingly the prefer-
ence given to Alexander's operation, and the statement that we must wait for a few months before realizing all the benefit. In prolapsus, rather than do vaginal hysterectomy, he would perform Alexander's operation, and follow it by operations designed to narrow the pelvic outlet. Of the more severe procedures, central fixation will be found the most adaptable in most cases where the tubes and ovaries are not removed. In marked retro-displacements with adhesions he would do laparotomy, for the operation is done now with little risk, and produces great benefit in all the symptoms.

Dr. II. A. Kelly said no supra-pubic operation for retroflexion should be undertaken until the inferior supports have been restored. A relaxed or torn vaginal outlet must always be repaired first, and oftentimes this alone will be sufficient, or will give the requisite support to a pessary to hold the uterus in place. When necessary to attack the flexion by any operation above the line of the superior strait, hysterorrhaphy—the direct attachment of the uterus to the abdominal wall by suture—is the ideal method.

A simple abdominal incision reveals the exact condition of the adnexa, which are sometimes diseased when least expected, and affords the necessary opportunity to release an adherent retroflexed uterus.

In spite of many brilliant successes, in a certain percentage of cases the uterus falls back into its old position. This is due to the fact that the whole weight of the body of the uterus sometimes hangs on its new support in the constrained position induced by its attachment.
by the anterior face of the broad ligament—the uterus is thus sometimes feathered backwards, as in Fig. 1.

He has remedied this by reaching over the tops of the tubes and broad ligaments, and catching the ovarian ligaments half way between uterus and ovaries, and thus attaching the uterus on either side in a position of marked anteflexion, with a tendency to carry the cervix backwards towards the sacral hollow instead of forwards, as in the earlier operation (Fig. 2).

When the corpus uteri lies back between the utero-sacral ligaments, and can be raised and thrown about in the pelvis like the end of a flail, he has in three cases fastened it up to the abdominal wall without making any incision at all.

After emptying the bladder and cleansing vagina and abdomen, and shaving the pubes, the patient is brought with her buttocks to the edge of a low table, and her legs straddled over the knees of the operator, who is sitting (Fig. 3). The uterus is then brought into anteflexion, and its posterior surface pushed up against the anterior abdominal wall just above the pubes, by means of two fingers in the vagina pressing on the anterior face of the uterus (Fig. 4).

In this way the fingers, acting through the uterus, force the skin and subjacent tissues into a prominent hillock just above the symphysis pubis.

The operator then takes a stout, well-curved needle threaded as a carrier, and, with a turn of the wrist, sweeps the needle through skin, subjacent tissues, and uterine body, and out on the other side (Fig. 5). It should be directed with a view of passing deeply into the body of the uterus. Silk-worm gut or silver wire is then drawn through by the carrier thus introduced, and pulled up taut and shotted close to the abdomen. One or two more sutures are passed in the same way above this, and under each of the shot a silver coin with a slit in it is slipped, or such a silver plate as is shown here (Fig. 6), which prevents ulceration of the skin from pressure.

The sutures should be well watched, kept antiseptic, and the patient kept in bed two weeks, when the sutures are cut and pulled out.

Dr. T. A. Emmet said that in 1859 Marion Sims had a hollow canula made for carrying a silver wire to be used in stitching the
uterus to the anterior abdominal wall; but, after passing it to the fundus in a case, his courage failed and he did not finish.

In these operations, we must bear in mind that we can lift the uterus too high and so produce the same effect of tension and dilatation of the veins that occurs when the uterus is too low.

Dr. POLK might do vaginal hysterectomy for prolapsus in a patient near the menopause, as the operation is now done with so little risk.

A little suppuration of the external wound is not out of place after Alexander's operation, as it insures a more certain result. Use a drainage tube for twenty-four hours.

Kelly's way is best, but in some cases the tension is too great.

In his own method, the round ligaments are grasped three-fourths of an inch from each uterine corner, brought together in front of the uterus, and tied. If this does not produce enough shortening, a second ligature is thrown around them in front of the first.

Dr. BOLDT had done hysterorrhaphy for retroflexion with adhesions eight times, with two failures. After breaking up the adhesions, a suture was passed through the abdominal wall and beneath the serous surface of the fundus uteri, thus suspending it, a pessary being adjusted, which should be left in two months or longer. The suture which has been used, of silk-worm gut or silver, is removed in two weeks. The advantages are that the adhesions to the anterior abdominal wall are not extensive, if any at all take place. The benefit of this is obvious in case of future pregnancy. Since his two failures he had several times practised the method adopted by Leopold. The simple suspension was first done by Boldt in March, 1887, with perfect success in the after-result. The full description of the method is given in the New York Med. Monats., vol. i., No. 4.
Dr. A. Martin, of Berlin, Germany, sent a paper on

THE RELATION OF UTERINE RETRO-DEVIATION TO PREGNANCY,

which was read by the Secretary.

Is retro-deviation so serious an obstacle to conception as is usually thought, and is gravidity in these cases so dangerous a condition as is generally supposed?

Out of twenty-four thousand gynecological cases, the author has seen one hundred and twenty-one with retroflexion of the gravid uterus. These all complained of the typical symptoms of the condition. Many of the cases applied for treatment at first for uterine catarrh, perimetritis, etc., and after curing these conditions no symptoms were complained of, the patients coming back, after a time, gravid.

In the treatment of these cases, the bladder is first to be emptied, then reposition faithfully tried in the knee-chest or lateral position, and a pessary employed until the uterus would remain above the pelvic brim. Where the displacement persists, it may be necessary to keep the patient recumbent on the abdomen for a week or more. the uterus being kept replaced.

The following are the conclusions reached:

Retroflexion, congenital or acquired, is not the main obstacle to conception, but the accompanying congestion, endometritis, etc.

The majority of cases of retro-displacement of the gravid uterus remain unobserved and develop normally to term.

Difficulty in passing urine is an important symptom of the condition.

In cases of incarceration, try replacing, and, that failing, consider the induction of abortion or even the extirpation of the uterus.

Dr. Bache Emmet, of New York, did not meet with many cases of retroflexion in which pregnancy was present or possible. He tried to promote pregnancy in these cases, as it was for the best interests of the patient. When gravid, early replacement, either by manual and postural means or by tampons, was most important. Abortion was very apt to occur.

Dr. Howard Kelly had seen several cases which became pregnant after lifting up the uterus by a pessary. He thinks the tendency is to normal and spontaneous reduction, only a small percentage leading to those terrible cases of incarceration or spontaneous abortion.

Dr. T. A. Emmet believes that retroflexion never occurs except as the result of pelvic inflammation, and that nature may and frequently does effect a cure by gradually loosening and absorbing the adhesions. These women are just as liable as others to conceive, if the tubes are open, but they are more apt to abort. In half a dozen gravid cases that he had seen where the uterus was bound down, postural manipulations and packing had enabled them to go to full term. Digital manipulation was apt to induce abortion by too much violence. The better way was replacement in the knee-chest posi-
tion, introducing the speculum first into the rectum to inflate it, and then into the vagina. The pessary is risky. Packing with wool and vaseline answers best, and he finds few cases that cannot be relieved by its careful use.

Dr. SKENE said Martin's careful paper confirmed what he had previously believed. He would, however, never think of extricating a uterus for incarceration, does not think it rational, and does not see how Martin could have even suggested it.

Dr. HANKS agreed with Dr. Skene. He cited some difficult cases of reposistion of the incarcerated uterus, making the point that patience must be employed in difficult cases. He doubted the advisability of pessaries, but believed in packing.

Dr. SKENE said Peaslee's flexible ring is perfectly safe for use after replacement.

Dr. KELLY would try gentle means, then leave to nature for a while, and then would not hesitate to do laparotomy and raise the uterus up.

Dr. CHADWICK was rather surprised at the desperate means advised. He always had found the uterus replaceable. Advised repeated gentle manual and postural replacement.

Dr. BOLDT does not think these desperate measures should often be chosen rather than abortion, but as cases are recorded where death has been the sequence of irreducible incarceration, they may be sometimes advisable.

Dr. CHADWICK asked, Had any of the members ever seen a case that required operation?

Dr. MAXN had had one case where he was obliged to induce abortion, and knew of another.

Dr. KING said the first case ever recorded (by Hunter, in London) died from the effects of the condition.

Dr. E. C. GEHRUNG, of St. Louis, read a paper entitled

RESULTS OF SUPPRESSION OF MENSTRUATION.

The author maintains that menstruation under certain conditions is a hemorrhage, and consequently a waste, which frequently causes impoverishment of the blood and engenders anemia with its many morbid consequences; that this bleeding can be lessened, or even arrested, as the case may be, not only with impunity, but usually with a highly beneficial result in lessening the anemia and curing its consequences, the argument being that "blood saved is equal to blood gained." The vaginal tampon is the repressive agent used.

Dr. Gehrunig records a series of interesting cases and cures in corroboration of his views.

Dr. BOLDT differed with Dr. Gehrunig in many points. He could not consider menstruation a pathological condition or the loss of blood harmful. He believed, however, that the treatment had a limited field of value.

Dr. ARTHUR W. JOHNSTONE, of Danville, Ky., thought Dr. Gehrunig mistaken in considering menstruation a pathological condition. It is useful and normal, and as vitally necessary to the well-being of the organism as is respiration. He would not use the tampon to repress menstruation, unless he could at the same time cork the Fallopian tubes. It is the pelvic sympathetic nerve and the spinal cord that control menstruation, and not the vascular system. The
severing of the pelvic sympathetic nerve, and not the removal of the appendages, is what stops menstruation after operations on the tubes and ovaries. Many cases of menorrhagia are not due to pathological conditions of the uterus, but to pathological states of the broad ligaments and pelvic tissues affecting the pelvic nerves. The pseudomenstruation after laparotomy is caused by the pinching of the sympathetic nerve fibres, in the same way that ligation of the chorda tympani causes a flow of saliva. The functions of the pelvic sympathetic are of extreme interest and worthy of extended study. He should consider Gehrung’s method abnormal, dangerous, and apt to produce hematocele or other trouble.

DR. JACKSON said the theory of Gehrung might be wrong, but the results were correct. He has employed the method for years, and has seen no evil results, but only great benefit. He cannot see why excessive loss of blood should not be prevented—the term excessive being relative. He obtains permanent beneficial results, and indorses and commends the method.

DR. GEHRUNG said he did not seek to repress normal menstruation, except where the patient is very anemic and cannot afford any great loss. He claims, not that the theory is correct, but that the results obtained are. The opposition shown is entirely theoretical, but his results are facts.

DR. H. J. BOLDT, of New York, read a paper on

INTERMEDIATE TRACHELORRHAPHY.

Not all cervical lacerations are productive of pathological changes, and the time varies at which symptoms show themselves, but, knowing the symptoms which will probably be entailed by the presence of an extensive tear, it is rational to pursue a course that will prevent them.

The ideal method would be to sew up all tears immediately after delivery, but for many and obvious reasons this is impracticable. In patients operated upon long after the occurrence of the injury, when the pathological changes, and especially hyperplasia, have existed several years, the return to the normal is not so likely to result as when the operation is done earlier.

For these reasons “intermediate trachelorrhaphy” is best. This is the repair of the injury after the cessation of the lochia and before the occurrence of pathological changes.

This operation the author has done twenty-six times with most gratifying results.

The usual surgical precautions are taken, and the operation is done in Sims’ position; the cervix is steadied with a tenaculum, and the cervical canal noted and avoided in the denudation. The surfaces of the tear are then carefully and thoroughly scraped raw with a very sharp instrument, every portion being denuded, including the cross tears of a stellate laceration, should such exist. Sutures of No. 2 catgut are then deeply and carefully introduced, so as to bring all parts of the wound into accurate apposition without undue tension anywhere.

The advantages claimed are:
An anesthetic is required only in extremely nervous women; the operation can be done in the physician's office, if desired.

It is absolutely free from danger if properly performed and the contra-indications borne in mind.

The patients can go about as usual after the operation has been done, though in private practice they are usually made to lie down for several hours.

No appreciable tissue is lost, which is one of the chief reasons why the operation is urged.

**Dr. Bache Emmet** believes that with careful antisepsis after labor and during the puerperium many lacerations are naturally healed. Boldt's method would do away with much subsequent trouble from the exposure of the eroded surfaces, the subinvolution, endometritis, etc., but he would not advise it unless the tear were very large. Office operation is dangerous and it would be wrong for the Society to countenance it. All obstetricians are not expert gynecologists. Preliminary treatment is important. He thinks the parts too friable for suturing so soon after labor, and that they would not stand the strain of the sutures. Boldt's ideas are dangerous for the profession in general.

**Dr. Skene** thinks the views of Emmet as he advanced them cannot be improved on, and that there is no present need for discussing the matter. He is exceedingly opposed to the risk of doing these operations in the office.

**Dr. B. F. Baer**, of Philadelphia, did not believe that the operation should be thought so slight. He would not do it without anesthesia. If laceration is always a lesion, then it is proper to close it soon, as Boldt advises, and not to wait for the chronic hypertrophy and endometritis to follow.

**Dr. T. A. Emmet** is still learning. He now thinks that Eve had a laceration, and every parous woman since. The operation for its closure, to be effective, is a serious one, and should not be done without sufficient reason. During the puerperium, if there is no sepsis, nature will beautifully repair the injury which may have occurred during labor. If there is trouble after labor, then is the time to cure the woman. Care for it yourself; do not trust a nurse; keep the parts scrupulously clean; use iodine; keep the patient under the best hygienic conditions, and usually she will do well. No one can tell soon after labor what tear may or may not need operation. Cases are dangerous where the extensively torn cervix remains soft and the woman bears many children in rapid succession, for such lacerations are apt to eventually become epitheliamatosus. They need early treatment, and, if not much relieved, operation. Where there are adhesions or pelvic thickening you may operate, but must be careful not to drag down the uterms. He lays great stress on the importance of closing the laceration thoroughly, and not merely by a superficial approximation of the edges, leaving an ununited cavity within. He does not exaggerate when he says that he closes more of these cavities made by other men than he does of primary tears.

**Dr. Engelmann** says that there is a large class of cases where laceration is present without symptoms. Some of these never give symptoms; others, after eighteen months, show decided nervous symptoms. Why should we not operate in these cases when the symptoms first begin to appear? He vigorously protests against operation in the office.
THE VALUE OF LAPARATOMY IN THE DIAGNOSIS AND TREATMENT OF MINOR FORMS OF INTRA-ABDOMINAL AND INTRA-PELVIC DISEASES.

The author began his paper with the statement that no fact was more conspicuous in a study of the history of laparotomy than the unwarranted prejudice this procedure has had to combat in the various stages of its evolution and growth to its present position of acknowledged usefulness as a surgical resource. The development of laparotomy to its present status he attributed to the acceptance of two facts: first, that the peritoneum will safely tolerate surgical interference; second, that absolute cleanliness is imperative to success in abdominal work. The limitations of laparotomy were for years fixed by opinions founded upon ignorance and a misconception of facts. Experience has demonstrated that the procedure is a surgical resource, admissible and valuable in exact ratio to the judgment, skill, and experience which call it into operation for diagnostic and clinical purposes. The limitations of laparotomy proceed from those obscure intra-abdominal conditions which cannot be reached by ordinary methods of diagnosis and treatment. In the diagnosis of minor forms of intra-abdominal disease, laparotomy was made necessary if a curative method of treatment was sought. It was admitted that many patients suffering from these obscure and minor intra-abdominal conditions could drag along months, and perhaps years, of invalidism or semi-invalidism under ordinary methods of treatment, but that laparotomy presented the only rational and direct route to the cure of such conditions. He claimed that the surgeon was in duty bound to resort to this course when the circumstances, surroundings, and wishes of his patients made a curative treatment desirable. The failure to employ a laparotomy in the diagnosis and treatment of minor conditions came from the surgeon, and not always from the standpoint of the patient. He advocated conservatism and a careful study of such cases before resorting to a surgical expedient, but argued that an ultra-conservatism lay at the very root of the most fatal forms of laparotomy work. A comparison of former with present methods of abdominal work proved most conclusively that the mortality is in direct ratio to the promptness, decision, and skill of the operator. It has been shown that abdominal section is not, per se, the cause of mortality, but the conditions for which the section was undertaken—conditions which were allowed to assume the worst relations and influences towards the patient before interference was deemed advisable. The essential conditions to success in
laparotomy hinge upon the gravity of the condition for which the procedure was instituted.

If the laparatomy has been made as an aid to diagnosis, it becomes, in the hands of the trained operator, a procedure with the slightest degree of casualty. Experience goes to show that a simple abdominal section should have no mortality. Laparatomy as an aid to diagnosis assumes a graver significance when the condition thus revealed demands operative interference, but the gravity of the section will depend upon the circumstances under which it is undertaken. If the operator has permitted these lesions to assume the most complicated relations before resorting to the section, he has by this course of action increased the risks and dangers incident to the laparatomy, and he should charge this element of casualty to his methods rather than to the section. Thus a simple section as an aid to diagnosis is per se a simple step, and only approaches the nature of a hazardous operation when the conditions found require removal. The graver operation owes its gravity to the conditions which have been assumed prior to the section and to the circumstances under which it has been instituted. Approaching a laparatomy with this understanding of its dangers and advantages, its value is made apparent in a large range of conditions as a curative measure, as it were superseding the more conservative measures which aim to palliate minor troubles. The minor intra-abdominal diseases were classed under the following heads: 1st, Inflammatory; 2d, Structural, (a) morbid growths, (b) ectopic pregnancy; 3d, Neuralgic; 4th, Changes of Position; 5th, Hemorrhagic. Under each head the minor troubles observed were discussed on an argument advanced in favor of laparatomy in the diagnosis and treatment of the same, where indications warranted a surgical intervention in such conditions. The pathology of tubal inflammation and pelvic abscess was presented in contrast with former opinions upon this subject, and laparatomy was suggested as the proper line of treatment for such conditions the very moment the expectant treatment was observed to be in fault. Minor intra-pelvic growths were at the root of intra-pelvic troubles in certain cases, and were capable of creating symptoms out of all proportion to their apparent gravity. Laparatomy was advocated as the only correct way of diagnosing and removing these conditions. Primary laparatomy was advocated in the treatment of ectopic gestation the very moment this condition was strongly suggested or actually demonstrated. Ovarian neuralgia was regarded as the most frequent form of dysmenorrhea, and laparatomy was advocated as the only curative plan of treatment in the worst varieties of this trouble. The circumstances, surroundings, and physical condition of many women suffering from ovarian dysmenorrhea made the curative plan of treatment necessary, and removal of the ovaries was the essential aim of such treatment. The correction of displacements of the kidneys, ovaries, and uterus presented a field for the extension of laparotomy work in
Third Day—Afternoon Session.

DR. EDWIN WARREN SAWYER, of Chicago, read a paper on
PARTIAL ROTATION OF THE OVUM IN EARLY PREGNANCY AS A CAUSE
OF PLACENTA PREVIA.

The ovum may be partially detached from its site without necessarily producing abortion.

The ovum may then rotate to a limited degree, turn a part of its surface to a lower uterine zone, and reattaching itself produce placenta previa.

Two illustrative cases are cited in support of the foregoing propositions.

CASE I.—A patient met with a jarring accident so early in pregnancy that she did not yet know she was gravid. This was followed by pain and a slight bloody flow for a few days, but pregnancy went on nearly to term, when violent vaginal hemorrhage occurred, and on examination placenta previa marginalis was found. The patient was safely delivered by forceps of a dead child. The cord was attached to the edge of the placenta.

CASE II.—Very early in pregnancy the patient, a primipara, stepped heavily from a chair and was severely jarred. This was followed by a slight bloody flow for a few days, but pregnancy went on to near term, when Dr. Sawyer was called for pain and hemorrhage, and on examination found the mother in labor with the edge of the placenta and vertex presenting. Fetus born alive. Mother made a good recovery. Cord attached to edge of placenta.

The peculiar histories of these cases, together with the velamentous insertion of the cords, suggested the following explanation: At a very early period of pregnancy, while the chorion is still villous, the ovum may by some accidental means become partly detached from what would have been the area of the placental site, the detached portion rolling away from the uterine wall and becoming
atrophied, while at the same time a fresh portion of the chorion comes in contact with the uterine wall lower down, and develops there, forming a lateral placenta previa and a lateral insertion of the cord.

Dr. A. F. A. King, of Baltimore, Md., said Dr. Sawyer was fortunate in his choice of a subject, concerning which but little was really known. He thinks Dr. Sawyer probably perfectly correct in his hypothesis, except that it would not explain complete placenta previa. He had searched the voluminous literature of the subject, but had found nothing of any great interest, except that relating to the old theory of total detachment. He questioned if all battledore placenta were not produced according to Sawyer’s hypothesis, and said the thanks of the Society should be extended to him for his very novel idea.

The paper was further discussed by Drs. Kollock, Hardon, Jewett, and Skene.

Dr. Sawyer, in closing, said he thought an ovum entirely detached would be cast off as a foreign body. In complete placenta previa, there is always a history of previous disease. Very early in pregnancy, during the first fifteen days, the allantois is projected from the embryo towards the periphery, and wherever it strikes the placenta is formed. Velamentous placenta may be caused by the allantois not coming completely in contact with the uterine wall, and becoming partly atrophied. He is diffident in putting forth his views, because they are drawn from only two cases.

Dr. Cornelius Kollock, of Cheraw, S. C., read a paper on the subject of

THE PROTECTIVE INFLUENCE OF VACCINATION DURING THE INTRA-UTERINE EXISTENCE OF THE FETUS.

That the germs of infectious disease, when introduced into the systems of pregnant women, do pass into the circulation of the fetus and produce there their characteristic effects, may now be said to be an established fact, as proved by the presence, for instance, of variolous pustules at birth, or evidences of undoubted erysipelas or scarlatina, as in the case reported by Saffin in the N. Y. Medical Record of April 24th, 1886.

The existence of congenital malarial manifestations has been questioned, but Kollock, who has lived in a malarial district, has often seen undoubted instances, at birth and during the first days of life, some remittent, but most intermittent in form.

Since the transmission of disease germs from the mother to the fetus seems to be an assured fact, the question arises: Will intra-uterine vaccination impart to the fetus an immunity against variola? To try and answer this question, and to contribute to the knowledge of the subject, Kollock has since 1863 vaccinated 36 pregnant women, of whom he has record; 14 were primipare and 22 multipare. All the children were vaccinated, and where it failed to take the operation was repeated several times. The results obtained showed that the physical or mental condition of the mother did not, but that the
period of gestation and number of the pregnancy did, greatly influence the protection afforded. In the 14 cases of primiparous women, vaccination failed on the children of only 5; in the 22 cases of multiparous women, it failed on the children of 16. The primiparous mothers on whose children vaccination failed were vaccinated at a very advanced period of gestation, over eight months. In the multipare, also, the later the vaccination, and the greater the number of previous pregnancies, the greater the chances of protection to the child. This fact Kollock explains by the fact that the nearer the gestation is to its end the more vigorous is the utero-placental circulation, and that with each succeeding pregnancy the number and calibre of the vessels increase.

Dr. Sawyer said the subject was of peculiar interest to him, as he had been for ten years an official of the Chicago Health Board, and during that time had had over fifteen thousand children vaccinated. Out of this number there were many children who could not be vaccinated successfully, and on inquiry in these cases he had always found that the mother had been vaccinated or exposed to small-pox during her pregnancy. He would go even further in his belief than the essayist.

He had very definite ideas about the susceptibility of people to vaccination. The idea that it is necessary to revaccinate every seven years is absurd. His experience of over seventy-five thousand vaccinations had shown him that it was usually possible to vaccinate an individual twice—one in infancy, and once after puberty.

Dr. J. C. Reeves said that malarial poisoning in children less than forty-eight hours old did not manifest itself by a chill, but in severe cases might show itself as a convulsion. This was his experience and agreed with the literature on the subject.

Dr. Kollock differed with Dr. Reeves. In his locality he often saw the "little beggars" shake most vigorously. He was much impressed with Dr. Sawyer's statements.

Dr. James R. Chadwick, of Boston, reported a case of

NEPHROTOMY FOR REMOVAL OF CALCULUS OF KIDNEY.

The patient had a history of renal colic, epigastric pain, and irritable bladder since a miscarriage in 1883. In 1885, she was seen by Prof. Wood, who found blood, mucus, and calcic oxalate in the urine. There was not much cystitis at this time, but suspicion of a calculus. The symptoms continued, and the patient saw several very eminent surgeons, from whom she had records showing much the same condition of the urine. She had now been under Dr. Chadwick's care for several years, and great pains had been taken to secure a correct diagnosis. She was considered to have a renal calculus, and two months ago nephrotomy was decided upon. A lateral lumbar incision was made, the kidney easily exposed and examined, but no stone found.

Subsequent to the operation there was no colic and no calcium oxalate for four weeks, when both reappeared after disturbing influences which caused the patient severe mental worry. The occa-
sion for this worry had been long continued, and he now believed it to be the entire cause of the patient's symptoms.

A condition he had noted during the operation was the extreme softness of the perirenal fat, which allowed the kidney free movement. We must remember that this condition is natural, that the kidney is normally somewhat movable, and that so-called movable kidneys are only those where the degree of movement is excessive. In cases of true movable kidney, it is nearly always the right one that is affected.

The operation of nephrotomy is simple and not particularly dangerous, if it be done early before pus appears in the urine; after the appearance of pus, the mortality becomes excessive (eighty-three per cent).

His case showed the great difficulty of diagnosing renal calculus, but was not the only one in which nothing was found on operation. Out of thirty-five cases reported, in thirteen no stone could be found, though the patient complained of the typical symptoms. In several cases, the symptoms disappeared after operation, even though no stone could be found. Tiffany had reported a case of nephralgia cured by incision of the capsule.

Dr. Currier recalled a somewhat similar case, in which the passage of a calculus the size of a pin's head had relieved the symptoms. Could not such a small calculus have existed in Chadwick's case and have been overlooked?

Dr. Kollock cited a case.

Dr. Engelmann had observed cases similar to Chadwick's, caused by reflex nervous influence from uterine disease. These cases had all the symptoms except blood in the urine, and after a couple of years, when the uterine trouble improved, the symptoms ceased. In an operation he had witnessed, no stone was found, but the colicky pains afterwards disappeared.

Dr. Gardner, of Montreal, noted a case in a man where on operation no stone was found, but where the symptoms disappeared for several months and then reappeared. A second operation found the stone and cured the case.

He agreed with Chadwick concerning the movability of the kidney.

Dr. Chadwick thought that any calculus could not have been overlooked in his case, and that her condition had been caused entirely by mental worry. Great pains had been taken in the diagnosis.

The following papers were then

READ BY TITLE:

A Case of Interstitial Pregnancy—Rupture of the Uterus and Laparotomy, by R. Stansbury Sutton, M.D., of Pittsburgh.


A Contribution to the Clinical History of Cystic Degeneration of the Ovaries, by R. B. Maury, M.D., of Memphis.

Strictures and other Obstructions in the Vaginal Tract, and their Treatment, by H. F. Campbell, M.D., of Augusta.

The Effect of Ergot upon the Parturient Uterus, by John Goodman, M.D., of Louisville, Ky.

In Memoriam, Dr. Ellwood Wilson, by Wm. H. Parish, M.D., of Philadelphia.

The Society then adjourned.

The following gentlemen were present as the invited guests of the Society: The members of the Obstetrical Society of Boston, and Dr. Weeks, of Maine; Dr. Virgil O. Hardou, of Atlanta, Ga.; Dr. A. E. Moseley, of Baltimore, Md.; Dr. Brooks H. Wells, of New York; Dr. H. M. Cutts, of Boston; Dr. H. Robb, of Philadelphia; Dr. Gardiner, of Montreal.

The officers for the ensuing year are:

President, John P. Reynolds, M.D., of Boston.

Vice-Presidents, William M. Polk, M.D., of New York, and Eli Van de Warker, M.D., of Syracuse, N. Y.

Secretary, Joseph Taber Johnson, M.D., of Washington, D. C.

Treasurer, Matthew D. Mann, M.D., of Buffalo, N. Y.

Other members of the Council, Dr. Wm. Goodell, of Philadelphia; Dr. W. H. Baker, of Boston; Dr. Bache Emnet, of New York; Dr. B. B. Browne, of Baltimore.

The following gentlemen were elected to membership:

Honorary Fellows, Dr. Charpentier, of Paris, and Dr. Robert P. Harris, of Philadelphia.

Fellows, Dr. F. H. Davenport and Dr. Sinclair, of Boston; Dr. J. M. Baldy, of Philadelphia; Dr. Henry T. Byford and Dr. W. W. Jaggard, of Chicago; Dr. William E. Ford, of Utica, N. Y.; Dr. Andrew F. Currier and Dr. Clement Cleveland, of New York.

The fifteenth annual meeting will be held in the city of Buffalo, beginning on the third Tuesday in September, 1890.

B. H. W.
PROCEEDINGS OF THE
SECOND ANNUAL MEETING OF THE
AMERICAN ASSOCIATION OF
OBSTETRICIANS AND
GYNECOLOGISTS.

HELD IN CINCINNATI SEPTEMBER 17TH, 18TH, AND 19TH, 1889.

(ABSTRACT.)

The meeting was called to order at ten o'clock a.m. by President Taylor. The

ADDRESS OF WELCOME

was made by Dr. C. G. Comegys.

Dr. E. O. Montgomery responded.

The opening paper was read by Dr. A. Vander Veer, of Albany, N. Y., and was entitled

CONGENITAL SINUS OF THE URACHUS.

The author reported a case of this rare condition. Miss H. N., aged 20, had suffered, from birth, at irregular intervals, from profuse, offensive discharge from umbilicus, accompanied by sickening sensation, so that weight of clothing was painful and all active exercise precluded. Excretions from parts above navel were at times sebaceous in character, very offensive, and excoriated the parts somewhat.

Under anesthesia, a probe was passed into a sinus three inches toward superior fundus of bladder. Dividing tissues from linea alba down to subperitoneal space revealed surprising length and depth of sinuses. Parts were carefully incised, sinus thoroughly opened up, and, after free curetting, lower portion was closed with sutures, and upper part dressed with iodoform gauze and allowed to granulate. Union was perfect and followed by complete recovery of patient from all previous trouble. Recovery undoubtedly the result of operation, as previous treatment, although carried on in most intelligent manner, effected no relief.

Dr. Jos. Price, of Philadelphia, said: I have personal knowledge of one case that I cannot call congenital sinus of the urachus. As the doctor has said, the cases are few. The case I will briefly report is one in my own experience, the trouble developing in the woman shortly after childbirth. She became a widow and remained so ten years, having during this time superficial abdominal trouble in the region of the urachus. Finally drainage was established at the umbilicus, giving exit to quite a large quantity of pus. She came into
my hands, and I incised to the pubis beneath all the cheesy dis-organized structures, leaving, as I feared at the time, a sinus passing around to the left. Later, I was compelled to incise deeper and irritate; the second operation brought about a perfect cure. She had been married a second time, some five years, without conceiving. It was curious that she should at once, after the second operation, conceive and give birth to a fine and healthy child. She suffers pain about the left ovary.

Some of my friends have referred similar cases to me recently and have been troubled to know how to interfere with them, as the trouble is quite extensive, there being suppurating cysts of the urachus.

DR. L. S. McMURTRY, of Danville, Ky., reported

A CASE OF EXTRA-UTERINE PREGNANCY. 1

DR. W. H. WATHEN, Louisville, Ky.—At the present time, to attempt to destroy an extra-uterine pregnancy by an electrical current is very popular with some of our Americans and with some foreigners. I am on record as positively opposed to this treatment. First, because I believe it is only exceptional, if ever, that we can tell positively that the woman is pregnant early enough to use electricity to destroy the embryo. Second, if we succeed in diagnosing the extra-uterine pregnancy early enough to destroy it, then I doubt the propriety of doing so, because we leave a condition that is not much better than the impregnation itself. While we destroy the child, we leave a foreign mass that places the woman’s life in constant jeopardy, and it at any time may be sacrificed. Then the only rational way of treatment is surgical treatment, and the removal of the product of conception, the gestation sac, and all the contents of blood, etc., that may be present. Even if we diagnose pregnancy prior to rupture, if we are going to do anything in the way of destroying the continuation of impregnation, then this I conceive to be the most rational and the most successful treatment. The danger to the woman then, I conceive, would be far less to cut down and take away the gestation sac than to attempt to destroy the vitality of the embryo by electricity. Since we understand the pathology of this subject better, we can arrive at better conclusions as to the proper treatment indicated. Formerly we had a great many cases of abdominal pregnancy and no very accurate data to tell us where this ovum first implanted itself, and just where the vessels penetrated the maternal structures; we were at sea as to just how to operate. We remember that Tait tells us that he bungled in his first operation, because he did not know what to do. Now we recognize the fact that all cases are primarily tubal, and that it is implanted afterward on other structures. We must go down to the foundation, to the beginning of these evils, and ligate them there, and we control the hemorrhage. Having seen but few cases, and having operated on possibly none, I will simply relate the case that I have but recently operated on, that was probably extra-uterine pregnancy, though, being in great haste to get the train, I did not examine the specimen, I was called into the country to operate for ovarian tumor, but I found it was not that. I found a hard substance extending to the under surface of the liver, with obstruction of the bowels for ten days. Making the section, this hard tumor was found to be in the folds of the broad ligament. Removing the tumor, I traced it down

1 See page 1042.
into the broad ligament, narrowing down to a diameter not exceeding two inches; the Fallopian tube destroyed; even the folds of the broad ligament separated an inch on each side of the uterus. The uterus was enlarged as much as at three and a half months of pregnancy, every symptom of pregnancy existing. I do not give this as a case of extra-uterine pregnancy, but the symptoms, I think, point in that direction. I regret exceedingly that in the hurry I did not have the specimen examined. I wrote back to the country, but the specimen had been destroyed. This case impresses upon us the importance of the suggestion of Dr. McMurtry, that we ought to operate early in cases where we have internal hemorrhage and suspect extra-uterine pregnancy. When the abdomen was opened, a great extent of bowel was found to be almost gangrenous. The woman died that night or the following day.

Dr. E. E. Montgomery, of Philadelphia.—I cannot too highly commend the promptness with which Dr. McMurtry performed the operation in the case he has related to us. Prompt operation, he says, in cases where laceration of the tube takes place, is the only relief for the patient. In such cases, the danger of fatal hemorrhage is so great that early operation is clearly indicated. In many cases, we find the hemorrhage active, so that it is not unusual for the patient to die within twenty-four hours. We find in all such cases the patient collapsed until nearly in a state of syncope; then the patient revives under the influence of stimulants or natural forces, and then we have the hemorrhage until a second syncope results.

With regard to the particular case before us, I do not think it is necessarily indicated that it was a rupture of the tubal sac preceding the hemorrhage. We find in many cases that as the tube becomes enlarged there is a partial rupture; in such cases, we have simply the pain and a slight amount of plastic exudation and peritonitis resulting, simply gluing the surface and reinforcing the sac. I cannot wholly agree with either Dr. McMurtry or Dr. Wathen, that electricity should not be considered in such cases; taking such a case for instance, if we had electricity applied at the time of the first rupture, the arrest of the growth would have been accomplished and the case gone on with complete relief of the condition. We know that we cannot always obtain the privilege of performing abdominal operations; that the patients shrink from them. In such cases are we to leave our patients to go without other methods of treatment, simply because we cannot procure the privilege of doing laparotomy? Are we to let go an operation which has proved of value in the hands of others? As to the use of electricity, experiments have demonstrated the fact that animals of even greater vitality than the embryo have been destroyed by passing the current through water in which the animal was swimming. Take cases known as tubal-ovarian. In these cases we find not unfrequently that the sac is formed, not only of the mouth of the tube itself, but becomes attached to the intestines. In such cases we find serious disturbance of the alimentary canal; in such a case as this, with the placental growth attached to the intestine, we find the removal attended with serious hemorrhage. We are unable to control the blood-vessels without applications that would endanger the intestines themselves. In these cases, by the application of electricity, we find the vascularity decreased, and the patient would stand a better chance for an operation later.

Dr. A. Vander Veer, of Albany, N. Y.—I think the conclusions of Dr. McMurtry are very correct, especially with regard to the rupture of the tube, and later to the rupture of the sac. These cases are
not, however, always so perfectly clear before as after operation. He reported one case of recovery without operation.

I will briefly relate a case that occurred in Pittsfield, Mass. Patient was married; had had one child; had complained for nearly two months; had ceased to menstruate for three months; consulted her physician on the 12th of January, 1889, stating she had some bladder trouble, as she supposed; the physician prescribed for her in that way. On the 20th he was summoned to see her, and she died in two hours afterwards. I told him I believed he had a case of extra-uterine pregnancy, and by all means to have an autopsy. It was a case where a prompt operation just as the hemorrhage began might possibly have saved her life. She lived some six or eight hours after the second call, which was eight days after the first call.

Dr. J. H. Carstens, Detroit, Mich.—Some cases, it is said, you cannot operate on. The patients object. It is not the patients so much as it is the attending physician. He does not care about an operation and rather opposes it. I have never used electricity when I did not constantly dread that during the use of that current the sac would rupture. It seems to me that just when you are using the electricity you get a contraction of the muscles around there, and you are likely to rupture the sac at that time. There is no doubt but it will in some cases destroy the fetus. I have seen it do so.

Dr. Joseph Hoffman, of Philadelphia, Pa.—I certainly have very positive notions on the certainty of diagnosis and value of electricity and necessity of it. In the first place, I take it Dr. McMurtry does not believe in the certainty of diagnosis, except as an accident. I think probably the most damaging blow to abdominal surgery has been the report of Dr. Thomas relative to the treatment of twenty-six or twenty-seven cases by electricity. I have gone over these cases with care. I must say that, looking at them in the light of diagnosis, I think they utterly fail. The question of diagnosis in most of them has depended on the question of rupture. Of the whole series reported, there are very few which have a probability of extra-uterine pregnancy without any ruptures having occurred, but must depend entirely on the diagnosis for rupture. Now, if we say we can diagnosticate the condition without rupture, we say a good deal that is not established by these cases. If operative treatment is only to be thought of after rupture, and these cases diagnosticated after rupture, the whole argument on these cases fails, because it evidently has been put on after rupture. I think the whole argument is fallacious, and most of the cases diagnosticated as extra-uterine pregnancy have probably been something else.

A word as to the possibility of exact diagnosis. A woman had a child fifteen months old, so that a long previous period of sterility was not to be thought of. She had menstruated regularly after the child had been born, and only missed one period. Here was no possibility of diagnostinating extra-uterine pregnancy from ordinary symptoms. She had a pus tube on the other side. Nobody could tell what I had until after the operation. In fact, after the operation it was a study to tell where and how the whole thing had been emptied. The woman recovered without any fistula—I think not even a fecal fistula. The matter of treatment, I think, resolves itself down to the importance of early eradication of any discovered mass in the pelvis. If the lesion is allowed to remain and complications to go on developing, as they must, by growth of the placenta, we are
endangering the life of the woman, and by electricity we are tampering with the life of the woman, and leaving in the pelvis a substance which is more dangerous than the primary growth, and as the time advances the danger increases.

Dr. Geo. H. Rohé, of Baltimore, Md.—Several statements have been made here as if they were demonstrated facts; I propose to question several. One of the statements made is that a diagnosis of extra-uterine pregnancy is never possible, or rarely possible, until after the rupture of the cyst. The fact is that it has been made before the rupture of the cyst and the verity of the diagnosis established by the post-mortem examination. I think that assertion must be taken with some allowance. Another inference that has been drawn is, that when the attack of violent pain and colic, which we assume to be a symptom of extra-uterine pregnancy, occurs, the rupture of the tube has already occurred. I do not think that is entirely established. Another inference drawn is that when the embryo has been destroyed, as claimed, by the electric current, then a foreign mass remains which is a constant source of danger. But the members of the Association will recollect that at the very early period at which the embryo dies it soon becomes dissolved. Smelly, I think, has stated that if a fetus dies within the uterus before three months it is extremely difficult to find the embryo at all.

Dr. Joseph Price, Philadelphia, Pa.—I am delighted that this unique report should provoke so lengthy and thorough a discussion; the result is simply that refinement of surgery is going on in this direction, and will continue to go on, not in the hands of so few men as in the past. There are a few points in the discussion I want to allude to. First as regards the diagnosis. Scant or delayed periods are both exceedingly common in a variety of pelvic diseases. Deficient menses are wholly unreliable as a means of diagnosis in extra-uterine pregnancy. Again, I will throw out a delayed period of one or two weeks that you also find in small tumors, and it is exceedingly common to find masses on both sides, and even extra-uterine pregnancy on one and a tumor on the other. You will find an abundance of reported cases to back up this argument. Take these three cases alluded to, operated on in the same week. Bantock removed an extra-uterine pregnancy on one side and a pus tube on the other side. The other case, by Edis, ectopic gestation and small ovarian cyst on the other; this has been common. Only recently I have removed an ectopic gestation sac on one side and a diseased tube on the other. The indications were clearly for sudden interence, simply because there was a suspicion—paroxysmal pain, hemorrhage, collapse. I was correct, but it was simply a guess, I must say. I have recently had a conversation with Formad in regard to this question, as to how these cases die. Formad’s cases die from rupture, from shock. There is much more hemorrhage in his cases than in the cases that go into the hands of the surgeon. Fothergill says a swoon often saves the patient from death.

Referring to a report of one of the colleagues of Dr. Rohé, I will allude to the celebrated Chadwick case. There was some doubt about the case, and a lengthy discussion took place regarding it; and this case is worthy of consideration. A number of Boston men saw the case. Electricity was finally used and the woman barely lived. Finally the fetus made its exit by the bladder; this was an electrical case.

In regard to how and when to operate, I hold there is but one time to operate—that is, primarily.
Dr. Thomas' record I consider about worthless. The Chadwick case amounts to nothing. The woman made a very narrow escape and the fetus made its escape into the bladder. The cases reported in Philadelphia as successes are still ill—those that lived. And probably some of us will have an opportunity to report those cases yet. I think in a few years surgery will settle this question. The cases will go into the hands of the surgeon with the old diagnosis, and, with the specimen in his hand, he will settle this question.

Dr. X. O. Werder, Pittsburgh, Pa.—My experience has been limited. I have had two cases. One was almost a typical case. There was sterility. Shortly after marriage she had pelvic trouble, and was sterile seven years. The last menstruation was a little over two weeks previous. Menstruation came and with it came cramp-like pains; they returned every three or four hours. When I saw her I found an elastic mass which I diagnosed extra-uterine pregnancy. When the abdomen was opened it was found full of blood. There never had been any symptons of collapse. The rupture of the tube had never been diagnosed. I suppose the reason was that the flooding was of an oozing nature. The fetus was not found, though there was no doubt about its being an extra-uterine pregnancy.

Dr. McMurtry, closing the discussion, said: I think we may consider it as absolutely permitting a dogmatic assertion, that no man can diagnosticate a case of tubal pregnancy previous to the time of rupture. If I were to see at the operating table a tubal pregnancy demonstrated after diagnosis, before the time of rupture, I would just simply consider it a happy accident. I do not think those whose experience is largest will pretend to diagnosticate a case of tubal pregnancy previous to rupture. Consequently I claim that all data in regard to electricity as a therapeutic resource previous to a rupture of a tube are absolutely worthless in consequence of this fact.

In the next place, I am going to claim that the diagnosis of extra-uterine pregnancy is not so very easy after the operation is done.

In regard to electricity, and the remarks of Dr. Montgomery, I simply want to emphasize what some have said—that if you do arrest the growth of the fetus in the Fallopian tube after the tube has burst, or before, you still leave inside the abdomen a body that may undergo suppurating changes; that can form adhesions with adjoining organs; and when you become driven to operation, after all, by relying on electricity, you have a case a hundred-fold complicated.

In conclusion, I wish to emphasize the importance of early operations in pelvic disorders. I think we are too much disposed to overestimate the dangers of an exploratory incision. They are comparatively trivial when compared with the danger of suppuration. I believe we should act promptly. We ought to take the responsibility of urging upon the family physician, upon the patient, the importance of early interference in these cases. One of the greatest difficulties we have to deal with is that the profession and people have not been pushed forward in these matters as they have in the East and as they have in England.

Dr. Chas. A. L. Reed, of Cincinnati, presented a paper on treatment of the ruptured parturient uterus, with report of two cases.

He called attention to the lack of defined principles in the treatment of the ruptured parturient uterus, and held the obstetric writers
and authors responsible for the confusion. The positions of Leishmann, Parvin, and Lusk were reviewed and declared to be but a trifle in advance of Trask, thirty years ago, and to be in violation of the well-established canons of modern surgery. He discussed the topic in reply to the following questions:

1. What shall be done with the child which is yet within the ruptured uterus?

2. What shall be done in cases of rupture of the uterus in which the child and after-birth have been successfully removed by the natural passage?

3. What shall be done in cases in which the child has been delivered, but in which the placenta has escaped into the abdominal cavity?

4. What shall be done in cases in which the child or the placenta, or both, have escaped into the peritoneal cavity?

Two cases were reported: One in which abdominal section had been done, following the successful birth of child and placenta per vias naturales, and in which a piece of placenta was found in the rent. Recovered. The other was one in which section had been done eleven hours after the accident; the placenta was removed through the section; the rent involved both the anterior wall of the uterus and posterior wall of the bladder; death after fifty-four hours. The following were Dr. Reed's conclusions:

1. In cases of rupture of the uterus with the head presenting, delivery by the forceps should be attempted, but should be abandoned if not found easily practicable. Turning should not be undertaken, but the case should be at once recognized as one for either the Cesarean or Porro operation.

2. In cases of ascertained incomplete rupture, treatment should be by antiseptic irrigations and rest.

3. All cases of ascertained complete rupture should be submitted to abdominal section as soon as the condition of the patient with reference to shock will admit, and for the following purposes: (a) to explore the abdomen; (b) to remove all foreign bodies; (c) to cleanse the peritoneum; (d) to close the rent if the labor shall have been short and the uterus not seriously damaged; or (e) to remove the uterus if the labor shall have been long and that organ seriously damaged.

Dr. Joseph Hoffman, of Philadelphia, Pa.—I have had one case of rupture of the uterus, and she died. I did it by turning. Right there you have a text that will preach a sermon such as Dr. Reed has preached. The whole subject of ruptured uterus and the questions of treating it can be written about and talked about as long as we please, and the end will be, if the rupture of the uterus is a serious one, the woman will die in nine cases out of ten. Antiseptics getting into the peritoneal cavity are just as likely to kill the woman as to kill the sepsis. The only satisfactory way is to go through the abdominal wall, and that is Cesarean section, or Porro's, which I think is preferable.
of Obstetricians and Gynecologists.

DR. JOSEPH PRICE, Philadelphia, Pa.—I fully agree with everything the doctor has said. I have seen two cases in consultation. One case was some years ago, and I urged abdominal section and was not supported by the physician in attendance, who disagreed with me, and called some one in who established vaginal drainage and lost his patient, and the abdominal cavity was found full of fluid. The other case was in my brother’s practice. The rent was posterior, to the left, and about eight inches in length; the placenta and cord entirely in the abdomen. The fetus had been partly delivered; it lay about half through the rent. He did a very prompt Porro, but she sank some twenty minutes after she was placed in bed. It was my impression that transfusion would have saved this woman. Opium itself sometimes kills these patients. Many of the patients would die if we followed irrigation and drainage with opium. I desire to say that I fear opium very much in abdominal work.

DR. W. H. WATHEN, Louisville, Ky.—Over two years ago I reported a case of rupture of the uterus, in which I took very much the same ground, as regards treatment, as was so ably presented by Dr. Reed in the paper just read. I am fully in accord with the views of treatment in possibly every instance.

I think, as a rule, the amputation of the uterus is the simplest, easiest, and quickest method, and probably future results will demonstrate this to be the best; but there are instances where the improved Cesarean section would be indicated. Where the uterus had not sustained any great amount of traumatic injury, except in the rent itself, which is not a very long one, and where there is apparently a healthy condition of this surface—a smooth surface that will adhere with as much readiness as in the ordinary Cesarean section, where the opening has been made with the knife—in these cases I would commend the improved Cesarean section.

DR. X. O. WERDER, Pittsburgh, Pa.—I have had the misfortune to see two cases of ruptured uterus; one in Vienna was treated by vaginal drainage. The second case I saw in consultation four days before. The temperature was 102½°, pulse 150, and she was very sore. The discharges from the vagina were very offensive; the child was undelivered, the head presenting near the pelvis; the cervix not fully dilated, membranes ruptured. I suspected the physician in attendance had given ergot. The child was dead. I suspected ruptured uterus, though I could not feel it. The woman had to be delivered—that was evident. I thought the safest way was by craniotomy, and delivered the child without difficulty. The woman was a multipara and never had very much trouble, though she had tedious labors. After the child was delivered, we waited a considerable time for the placenta; the uterus had well contracted, but there were no labor pains. I then made slight pressure on the uterus. I made vaginal examination and found the placenta was not in the vagina nor in the uterus, but there was a rent almost over the iliac fossa. I delivered the placenta through the rent. I advised the parents and the physicians to have a Porro operation performed, as the uterus was certainly in a condition of sepsis. Her husband and the relatives objected. The only thing remaining was drainage through the abdomen. The patient died a few days after.

DR. R. L. BANTA, Buffalo, N. Y.—I agree with the writer in all he says.

DR. A. VANDER VEER, Albany, N. Y.—I do not believe the Porro is the operation we ought to do in all cases. There are cases where rupture occurs where everything is natural. There may be cases
when it is necessary a child should be born in the family. In those cases I believe Cesarean section should be done. It has occurred to me that it would be wise to trim up that ragged, irregular rent, as in the improved Sänger operation.

DR. JOSEPH PRICE, Philadelphia, Pa.—A word in regard to that point. One would scarcely think of closing a lacerated or diseased tissue by bullet wound without trimming. The same rule holds good in all surgery; these ragged, contused rents should be made clean wounds, that the juxtaposition may be perfect and the healing rapid.

DR. REED.—The first criticism of an adverse character to which I desire to reply is one which strikes me with particular force. That was that in my fatal case, in which I already had peritonitis, I gave opium instead of salines. I may say that in all my cases of abdominal surgery it is my practice to give salines and to abstain from opium upon the first indication of a rise of temperature. In this case, it was the attending physician that gave the opium, and that was under extreme pressure from the patient, who was suffering.

DR. WATHEN has called attention to those cases of low-down posterior rupture as the ones best calculated to recover without operation, and calls attention to the ease and facility with which drainage from the abdominal cavity can be effected in this class of cases by virtue of location of the injury. My conception of this class of cases is somewhat different. The patient lying on her back will drain the uterus into the abdominal rather than the abdominal cavity into the vagina. This is largely a theoretical conclusion. It is my impression that the cul-de-sac in these cases occupies a position below the upper margin of the peritoneum.

DR. JOSEPH PRICE, of Philadelphia, read a brief paper on

INTRA UTERINE CORD AMPUTATIONS OF THE FETAL EXTREMITIES.

The paper was briefly discussed by Drs. Vander Veer, Wathen, and Carstens.

DR. EDWARD J. ILL of Newark, N. J., presented a paper on

THE FORCEPS AS A MEANS OF ROTATING THE HEAD IN LABOR.

He speaks of how seldom the forceps is used for this purpose in this country. He gives a historic review of the subject, names a number of authorities who apply the methods, among them Cazaux and Tarnier, Scanzoni, Lusk, C. Braun, etc. He first speaks of the objections raised against this operation, and refutes them, showing why failures should occur.

He then speaks of the conditions which call for the operation, and the conditions which would oppose the use of the forceps in this respect. He then goes on describing the operation in the different vertex presentations.

He explains at length the Scanzoni and the Lange methods of occipito-posterior positions, giving preference to the former. He also speaks of the excellence of the use of the instrument for this purpose in face presentations, especially those where the forehead presents under the pubis, having seen three successful cases of this form.
He then presents an analysis of one hundred and eighty-two cases that had come under his notice, wherein he shows the excellence of the methods employed.

Dr. R. L. BANTA, of Buffalo, N. Y., read a paper on

THE RECTIFICATION OF FACE PRESENTATIONS.

The application of the method considered necessitates that the head is not impacted in the pelvic cavity and that the cervix is well dilated.

In the first presentation, L. M. A., the face is on the right side of the pelvis and the trachelo-bregmatic diameter of the face corresponds to the right oblique diameter of the inlet (German nomenclature). As the head descends, the antero-posterior diameter of the neck, about three inches, is added to the depth of the cranium, about four inches in length.

Now begins the process of a body having a diameter of seven inches being forced through a passage of about four inches, which is accomplished by a great deal of force and moulding and only under certain favorable conditions. The bi-malar or transverse plane of the face, measuring a little over three inches across, now corresponds with the left oblique diameter, but on account of the smaller size of the diameter of the face there is left at the posterior part of the left oblique diameter a free space. It would seem, on first thought, if there were any manipulations to be made above the brim, it would be best to pass the right hand through this unoccupied space. But to reach the posterior part of the extended head, which, it will be seen, is one of the main objects to be attained, it would be necessary to pass the hand from one side of the pelvis to the other, over or under the body of the child, which for any practical purposes is impossible.

In order, then, to manipulate the occiput, the left hand is passed into the vagina and uterus (if need be) on the right side of the pelvis well back until it is stopped by the forehead or vertex. By now placing the fingers around the head or any part that can conveniently be grasped, only remembering to keep the hand in the position just described, enough force can be used, and only a small force is required, to rotate the head anteriorly about a quarter of a circle, when the chin will look posteriorly and the long diameter of the face will correspond with the left oblique diameter of the inlet. At the same time, or just before rotation—a very important point to remember—the head is pushed up so that the chin will be well above the brim. The face is now in the L. M. P. position, and there is left at the posterior part of the right oblique diameter a free space through which the hand is passed and placed over the occiput. The next step is to bring about flexion, which can, as a rule, be easily accomplished by placing the free or right hand over the abdomen of the mother and over the left internal hand. The presentation is now R. O. A. or the old second position.
The right hand is an important factor in this manœuvre, for it not only aids the left hand in flexing the head, but also helps to push the head well down in the pelvic cavity. If flexion does not readily occur, it is because the chin has not been forced high enough above the brim and is stopped at some point of the pelvic walls.

The forceps should not be applied if there is any fear that extension will again take place. A knowledge of the manner of proceeding in the position just described is the key to the other three.

With our knowledge of modern antisepsis, the introduction of a clean hand into the uterus through a clean vulva and vagina is entirely devoid of danger as far as carrying any septic material is concerned. Add to this a certain amount of skill which every practitioner is supposed to possess, and there is scarcely any doubt of the successful application of the rules just described.

Dr. J. H. Carstens, of Detroit, Mich. —The only improvement I would suggest is to put the woman in the knee-elbow position, or at least an exaggerated Sims position. In that way you can turn easier than any other way. I always give the patient chloroform. As soon as I have them under the influence of the chloroform, I stop it. Sometimes, where it is difficult to retain the head in its changed position, I have immediately applied the forceps, as the doctor suggests, and delivered the patient.

I perfectly agree with the doctor in the stand he has taken, and I think it is about time the general practitioner appreciated this proceeding. I can report some seven or eight cases, perhaps more, and in each of these the child was saved. That is more than I can say in cases where they were left alone.

Dr. W. W. Seymour of Troy, N. Y. —It has been my fortune to have in my own practice several face cases, and in some I have labored to bring about a change of the presentation to occipito-anterior position, in the way Hodge and others advised, introducing the right hand in the left side of the pelvis, the fingers over the occiput, and fingers against the brow; then, as pains came on, producing flexion of the head. If the occiput had well entered the pelvis, instead of attempting to produce change of the presentation from face to occiput, I preferred to, if I could, produce flexion by the veets. I have used it in a good many instances.

Dr. Banta, closing the discussion. —The criticisms I have no objections to. If a man wants to wait and trust to nature in these cases, it is well he should do so. But if you can by simple and efficient method rectify them, I think it is better and safer to the mother and child. In regard to Dr. Carstens' remark about posture, I think you can do all that is necessary by anesthetic. It is hard to get a patient in the knee-chest position while under an anesthetic. You will certainly require a number of assistants to do so, and I think it is unnecessary.

Dr. Llewellyn Eliot, of Washington, D. C., presented a paper on Umbilical Hemorrhage: Its Treatment.

Its causes are careless ligation, traumatism, or physical defects. More cases occur among male than among female children. Including the figures of Dr. Eliot, two hundred and sixty-one cases have been reported since 1752.
of Obstetricians and Gynecologists. 1093

The treatment of umbilical hemorrhage is both local and constitutional. The local means employed consist in a new ligature, compression, styptics, plaster of Paris, and the ligature en masse. Those of a constitutional character are good diet, calomel, sulphate of soda, iron, aromatic sulphuric acid, ergot, stimulants, and a general tonic course. Dr. Eliot advocates very enthusiastically the performance of a laparotomy and the ligation of the cord before its exit from the abdomen, and he believes that the number of cases recovering under this treatment would more than balance the risks assumed in doing the operation, but it must not be delayed too long.

Of the four cases he reports, two died after the employment of the usual remedies, one recovered, while on the fourth he made a laparotomy and passed a ligature about the cord. While this case proved fatal, he believes, from the fact of the bleeding having been permanently checked, that had the operation been made sooner the child would have recovered.

DR. AUGUSTUS P. CLARKE, of Cambridge, Mass., read a paper on

THE MANAGEMENT OF THE PERINEUM DURING LABOR.

In formulating the principles which have guided me in my own practice, I have been governed by the thought that, in securing the requisite degree of dilatation to insure safety to the tissues of the perineum and the uterine cervix, full and regular contractions of the fibres of the upper uterine segment must at all times during the second stage of labor be encouraged. When the fetus has made a rapid descent during the second stage of labor, the upper segment of the uterus loses, to a greater or less extent, the stimulus excited by the immediate contact and pressure within. It is during this particular period of labor that the force of the uterine pains will be replaced by contraction of the muscular tissues in the segment below. The muscular fibres of the lower segment of the parturient passages will contract, and not dilate, almost in direct proportion to the pressure imparted to them by the stimulating force of the impinging head or other presenting part. When any essential support to the perineal muscular tissue is made, either by the hand or by the employment of any kind of device, the effect will be only contrary to our expectation. The same or a similar result will follow whenever the force of the movement of the fetal head is sought to be restrained. The rhythmic action of the moderator muscles not being under control, the muscular tissue immediately above the point of the greatest resistance, acting with redoubled vigor, forces at length the head through the contracting and not dilating sphincter. As the head or other presenting part descends in the second stage, it will be found that the fundal segment of the uterine tissue gradually fails to act with the full force it did earlier in that stage; and that this failure of that segment to contract will continue more and more until the muscular tissue lapses into a state of inertia. To regulate the motor muscles, and to keep under full control the different sections of the
parturient systems, is easy of accomplishment when once their physiological relation is duly appreciated. In my own practice, during the second stage of labor I have been in the habit of exercising gentle pressure of the left hand over the body of the uterus. The hand is spread out fan-shaped, and by the employment of methodical manipulation every portion of the uterine tissue is easily brought under control and stimulated to contract at intervals more or less regular and uniform. In no case do I deem it judicious or proper to effect digital or manual dilatation of the vulvo-vaginal rings or introitus. Such dilatation can only be accomplished at the expense of the integrity of the levator loop and the transversi perinei, whose fibres unite in a tendinous raphe in the centre. Such attempts at dilatation can never result in relaxation of the muscular fibres of that part; it can only do more or less violence to the same, separating the central union of the transversi perinei, and weakening the support of the levator loop, and causing finally relaxation of the posterior vaginal wall. By the perfection to which the art of external palpation and manipulation has attained, we are enabled to forestall the occurrence of many accidents to the fetus, and the many peculiar positions and presentations which formerly took place when the diagnosis was largely dependent on vaginal examination. The careful study of the practice of palpation has developed a more profound knowledge of the forces involved in the process of parturition, and has taught that parturition itself is not so much dependent on the mechanical as on the conservatism of an energizing force resident within the nervous ganglia and plexuses controlling the muscular tissue. The so-called method of supporting the perineum by the application of the hand, either direct or by the intervention of a napkin to the parts, can never result in a conservatism of such vital force; for the perineal tissue, being in a state of contraction and not of dilatation, will only be stimulated to contract more and more firmly around the descending part, and to produce a more or less extensive laceration of the vaginal and vulvar rings. Attempts at restraining the descent of the head by interlocking of the fingers or by the exercise of pressure, or by other means devised, will also be futile as regards protection of the perineum, for the force of such pressure employed in the control of the descending head or other part will almost invariably be transferred immediately to a parallel of the segment just above which is already in a state of contraction. This will be the means of augmenting the irritability and contrac-
tility of that muscular tissue, and of endangering the cervical columns and inviting uterine laceration. The occurrence of such mishaps is usually followed by a perineal lesion. In reviewing the records of the history and conditions of one thousand consecutive obstetric cases which have occurred in my own practice, and which I treated according to the prevailing method of practice of supporting the perineum, I find that the percentages of perineal lacerations average for the primiparous 15.9, and for the parous 5.25. This rate
is exclusive of slight tears of the vaginal orifice and the fourchette. In an earlier series of such cases, the rate per cent was for primiparous 16.01, and for the parous 5.35. These figures, though large, compare favorably with those given by the eminent obstetricians quoted by Parvin. The author referred to states that Schroeder gives for the primipara 34½ per cent, and for the parous 9 per cent. Winckel gives 115 in 1,011 deliveries; Olshausen, according to the same authority, gives for the primipara 21 per cent, and 4.7 for parous; Hildebrandt 7½ per cent for all classes. In 400 deliveries, Swayne gives 31 for partial and 1 for complete laceration. Other statistics on this point could be introduced, but their import would be far from showing that the so-called methods of supporting the perineum are satisfactory. In 200 consecutive obstetric cases, managed according to the method advocated in this paper, there was not an instance of perineal laceration. In 50 other consecutive cases thus managed, there occurred only 1 perineal laceration. I was not called until the second stage of labor was far advanced, and at that time the perineum was swollen, rigid, and firmly contracting about the head, which was rapidly descending by the force of the tonic contractions of the lower segment of the uterus, while the upper segment was relaxed, having lapsed into a state of inertia. I could but feel anxious for the safety of the perineum, as only a brief period of time was left in which to prepare against the occurrence of laceration. There was not sufficient time for the successful administration of chloral or of morphia, nor even for an anesthetic, and any attempt to restrain the force of the oncoming head served only to increase the irregular contractions of the lower uterine segment as well as the muscular tissue of the perineum. I have no doubt had I been called at an earlier hour I should have been able to keep under control the contractions of the upper uterine zone, and by the use of opiates, chloral, or anesthetics the lower uterine zone and the perineum itself would have relaxed sufficiently to prevent a vaginal, vulvar, or perineal lesion. Before closing this paper, I would mention the occurrence of 60 other consecutive cases, including 14 primipare, without a perineal laceration. In all these, I was called early and was with each patient during the second stage of labor. One of these patients had had two previous confinements, in each of which there was perineal laceration necessitating immediate closure by sutures.

Dr. X. O. Werder, of Pittsburgh, read an essay on

FLAP-SPLITTING AND PERINEORRHAPHY, WITH SPECIAL REFERENCE TO TAIT'S OPERATION.

He gave a brief résumé of flap-splitting operations, describing first Langenbeck's operation, which is the real basis of all subsequent flap operations.

Voss, of Christiania, was the first to perform a pure flap operation,
but his method, which is described, was not fully satisfactory, as in four cases recto-vaginal fistula was consequent.

Dr. Simpson's (Edinburgh) method is a great advance in perineoplasty, and his operation, which is much simpler in technique and better in results than the previous ones, is still recognized, having advocates not only in England but also on the Continent. Marcy's and Fritsch's operations have many advantages over others, and give good results.

The simplest and most successful of all is Tait's new method of perineorrhaphy, first described by Sänger, of Leipzig. Tait has modified his method of flap-splitting, which he reported in the Transactions London Obstetrical Society in 1879, at least four times, the principal difference between the old and newest methods being the preparation of the flaps, and especially the introduction of sutures, which in the old are introduced in the axis of the wound, while in the new all sutures are perineal, rectum and vagina requiring no extra stitching. The new operation is the ideal operation, especially for complete rupture of the perineum, in which its simplicity, rapidity of performance, and excellent results cannot be surpassed.

Dr. Joseph Hoffman, Philadelphia, Pa.—An operation that is going to control the sphincter must heal by first intention or not control it. I cannot see how we are going to get anything out of an operation which deals only with the skin, except failure. So far as the Tait operation is concerned, I do not think Mr. Tait himself deserves any credit for originality in the operation. The operation was Simpson's originally, as I understand it, and has been modified, running from one degree of inefficiency to another. I do not think that pyemia in a simple perineal operation is justifiable. The original Tait operation, which was transforming a single slit into a transverse slit, causes excessive pain.

Dr. Joseph Price, Philadelphia, Pa.—I have given this subject very considerable study and consideration. I have also seen a number of flap-splitting operations at home and abroad. These so-called partial successes, where the ends of the sphincter are not united, are of no advantage to the patients. You might just as well put a tight pair of drawers on them; it will do just as much good.

Emmet has taught us more than all the rest of the world in plastic work, and is fifteen or twenty years ahead of the rest of the world. In the splitting operation, you must surely expose the ends of the sphincter muscle if you are going to bring them into apposition. I look upon the flap-splitting operation as a retrograde step. I am surprised that more of the patients do not die of tetanus after the use of the bayonet-handled needles.

Dr. W. H. Wathen, Louisville, Ky.—A year ago I read a paper before the Association in which I remarked that I knew of no subject in which there was so much scientific rubbish that we had to push away before we got down to the kernel of the subject; making a very simple operation, one that ought to be almost universally successful, seldom correctly or successfully performed. I have never failed in getting what might be styled a good result, and generally a perfect result. Patients have reported to me, one, two, or three years afterwards, that they had no further trouble at all. To Emmet
we owe the principle that enables us to get control of the feces by union of the sphincter muscle, and that is the great desideratum.

The flap-splitting process supplements Dr. Emmet’s operation, if Dr. Emmet’s operation is done successfully. I send my patients home in fourteen days, without leaving in any suture. I do not think it is necessary to leave a catheter in the bladder, or even to draw the urine by the catheter.

Dr. J. H. Carstens, Detroit, Mich.—I agree with Dr. Wathen that the use of the catheter is not necessary at all. There is no one operation that is absolutely correct; but we have to make use of two or three different ideas of different authors in one operation.

Dr. Werder.—I have nothing to say against Emmet’s operation, but there are other operations equally as successful as Emmet’s, and they have the advantage of being much simpler and more easily and quickly performed than Emmet’s operation. One of these is Tait’s operation. In all my operations the sphincters have healed; in every one of the complete ruptures there was complete retention. I do not see why a flap operation is not as well able to expose the ends of the muscles and make good results as any other operation.

Dr. William P. Seymour read a paper on

THE NECESSITY OF RECOGNIZING THREE PLANES IN THE OBSTETRIC PELVIS.

Instead of the so-called "inferior strait," which is neither a mathematical plane nor has definite physiological or obstetric functions, Dr. Seymour substituted two planes: one the plane of the arch corresponding to the anatomical arch in the anterior wall of the pelvis and the true exit from the bony pelvis; and the second corresponding to the coccy-pubic diameter, the middle plane or plane of rotation, because it is in this plane that the phenomena of rotation are completed. The planes of rotation and the arch make with each other an angle of 50°, the same which Naegele established for the planes of the superior and inferior straits. The axes of these planes make, in meeting, an angle of 130°. It is at the plane of the arch that the greatest danger comes to the perineum, particularly when the arch is narrow and deep or broad and shallow. The recognition of these planes divides much more clearly and physiologically the periods of the second stage of labor, the curvature of the parturient canal, and gives clearer indications in instrumental procedures and the support of the perineum.

Dr. David Barrow, of Lexington, Ky., read a paper on

HOW THE REFINEMENTS OF ABDOMINAL SURGERY HAVE INFLUENCED GENERAL SURGERY.

The most valuable lesson taught the general surgeon is cleanliness; every preparation and all manipulations must be conscientiously clean. Unless the surgeon himself be clean, unless the proper care of instruments and sponges be taken, no surgeon, no matter how well he can cut and manipulate, will ever be successful in abdominal or any other surgery.
The leading abdominal surgeons have demonstrated conclusively that clean surgery can be done without the use of chemical agents.

That cleanliness is godliness is true in all surgical procedures; the man who wears a dirty shirt, who bathes but rarely, who lets his finger nails grow long and serve as filth receptacles, who allows the instruments to rust and the sponges to hold sand and septic matter, cannot be designated a surgeon; nor should he be allowed to practise surgery, for so surely as he touches a wound, just so surely will it be contaminated.

In Lexington, Ky., lived Dr. B. W. Dudley; he was the most successful lithotomist of his day, and had, before the teachings of aseptic and antiseptic surgery, performed 207 lithotomies with only six deaths. Dr. Dudley knew nothing of bacteria or of Listerism, but he was clean in person, and used clean water and soap unsparingly, and cleansed his instruments in boiling water.

Mr. Tait, the greatest abdominal surgeon, owes his success to his manipulative skill and faithful attention to details and cleanliness.

Abdominal surgery has created a surgery of details; it has pointed out and emphasized the utter impossibility of a dirty and careless man ever becoming a successful surgeon; it has demonstrated that clean surgery can be done without the use of chemical agents, and that it is best to exclude all septic matter from a wound rather than attempt its destruction in the wound. That the use of antiseptic solutions will do harm in general surgery I do not believe for a moment, provided such solutions are used simply as additional safeguards against septic infection, and not to the exclusion of other aseptic methods.

It has been my observation that the general surgeon will usually wash his hands carelessly in either a carbolic or bichloride solution; he will pay little or no attention to his finger nails; will dip his instruments in the antiseptic solution, and probably place them, after he has done so, in a poorly cleansed receptacle; the sponges will be fresh from the drug store and will contain quantities of sand; he will handle the patient, bed clothes, and probably different articles of furniture, after his hands have been cleansed for the operation; and, strange to say, he will feel, if he has succeeded in getting nice flaps, or has coapted the cut surfaces in a pleasing manner to the eye, that he has done his duty, and will probably apply his anathemas against antiseptic surgery when septicemia and pus make their appearance.

After cleanliness, the next procedure in importance is probably drainage. Any fluid left in a recent wound is liable to undergo septic change, no matter whether it be serous or bloody, and no matter whether the fluid be in the abdominal cavity or confined between the flaps of an amputated leg.

The abdominal surgeon has certainly impressed upon us in a most convincing manner the importance of this refinement; and allowing for the anatomical and functional differences between the ab-
of Obstetricians and Gynecologists.

dominal cavity and the other regions of the body, the same rules and procedure will equally apply to drainage.

Acting the part of the "sentinel" is another valued function of the drainage tube, and that the information gained by it has enabled the surgeon to reopen a wound and stop hemorrhage that otherwise would have terminated fatally, we positively know. In general surgery we should always, when possible, drain with gravity; the more direct the outlet for the wound accumulation, the better result will we have a right to expect. Drainage through the abdominal incision, when properly done, is not against gravity, as usually implied, for the tube is merely an opening through which we can pass the long nozzle of a syringe to Douglas' pouch, and suck up the fluid as it gravitates there; and as fast as the fluid accumulates it must be drawn off, if necessary every half hour.

The drying effect of the drainage tube is important in general as well as in abdominal surgery.

Great irrigation with the minimum sponging must be mentioned as a refinement that the general surgeon would do well to pay more attention to. In a surgical procedure, prolonged anesthesia will cause shock, and is sometimes the cause of death in a patient who might have recovered had the operation been done more rapidly.

The peritoneal "toilet" must be thorough; the importance of washing out coagulated blood and débris, and having the cavity clean, cannot be overestimated. That the same care of toilet should be taken in the removal of a tumor or the amputation of a limb should be insisted upon. The abdominal surgeon must have confidence in his power to overcome complications and meet emergencies; and, above all, he must depend upon no one save himself, and be able to conduct the operation with but little assistance from others. Mr. Tait, in his abdominal operations, literally does everything himself, and the assistant is practically a figure-head.

The sponges will require the care of an assistant, either doctor or nurse, but, with this exception, it will be rare that an operation, either in the abdomen or elsewhere, cannot be completed by the operator alone; of course, an anesthetizer will be needed.

Dr. Joseph Hoffman, of Philadelphia, Pa., read a paper on

THE ACCIDENTS AND COMPLICATIONS INCIDENT AND SUBSEQUENT TO ABDOMINAL OPERATIONS.

Dr. McMurtry, Danville, Ky. —The importance of the element of time referred to by Dr. Barrow demands a little more consideration. It is important to limit the time as much as can properly be done, in consequence of the danger from shock that comes from prolonging the anesthesia; but abdominal surgeons realize the importance of discriminating between rapid work and hasty work. All conversation about the operating table should be dispensed with. Incomplete operations are among the most distressing complications that can attend abdominal operation. The operation should always be completed, if possible. Abdominal surgeons are coming rapidly to main-
tain the views which have been maintained so constantly by Dr. Joseph Price, for a number of years, in regard to the necessity for drainage.

Dr. A. Vander Veer, Albany, N. Y.—Dr. Barrow's paper is one that emanates from a mind that has been dwelling upon abdominal surgery until he has perfected himself in all the technique beyond a doubt; but some of us who have been in the rough and tumble of light of general surgery for a number of years before restricting ourselves to abdominal surgery will perhaps take somewhat opposite views of some of the points he presented. The late Dr. Peaslee, the neatest of all surgeons I ever saw operate, realized the importance of drainage more than many who have since followed him.

I believe that abdominal surgery has done a great deal of good for general surgery. I do not believe there is any portion of the practice of surgery where experience is of so much service as in doing abdominal surgery.

As to hernia, it is hard to account for it. No doubt our patients are allowed to get up too soon. A long incision tends to produce it.

Dr. W. W. Potter, Buffalo.—There has been probably as much confusion among the average readers of the literature of abdominal surgery in the past few years on the subject of knots as upon any other one point. I have been asked what is the Staffordshire knot, what about the Bantock knot, the Jones knot, or Smith knot. I was pleased to have Dr. Hoffman say it did not matter what kind of a knot you tied or what you named it, if you only tied it well. A good plain North American knot is good enough.

This little instrument here before me emphasizes to my mind a little more than was said in the paper on the subject of shock and the importance of heat to relieve it. I have only lately made one of the most trying sections I ever had to do with, and I believe if it had not been for the knowledge of what that irrigator will do, properly managed, the woman would have died. She was well-nigh in collapse before the abdomen was closed, after a very dirty operation in every way; more than a gallon of pus was drawn from a dermoid cyst, and the adhesions were something dreadful to attack, because of the time it took to release them. And that was the reason a woman fifty-three years of age probably did so badly on the table. But a continued flush of the hottest water that could possibly be borne, gallons of it, turned into that abdomen, served to rally her before she was removed from the table, and she has never had an unpleasant symptom since. A pitcher of water will answer, if one has not this irrigator. The hot irrigation has three functions: it shuts up the mouths of the vessels; it cleans up everything; and it rallies the patient from shock. Probably no one idea in all the modern abdominal surgical work has contributed to save as many lives as this of flushing the abdomen after operation.

Dr. Joseph Price, Philadelphia.—I believe the Staffordshire knot has been responsible for some deaths by hemorrhage. I counsel that men not much experienced use the figure-of-eight instead.

I do not believe a general hospital is the place to do abdominal surgery. I scarcely believe it the place to do any surgery. I look upon it as a great big water-closet; forty, sixty, and a hundred stools a day to contaminate the atmosphere.

Hernias are due largely to few stitches imperfectly applied—stitches that cut and strangulate; stitches that provoke stitch
of Obstetricians and Gynecologists.

abscesses. I recommend a great number of well-applied stitches, not very tight, introduced with a small needle, not the big bayonet with a handle. While the latter needle was in popular use there were more cases of tetanus than at present. Now we are using a small needle, and we seldom hear of tetanus.

Adhesions in chronic inflammatory troubles are usually well organized and difficult to deal with. It is a matter of practice only to familiarize yourself just how to shell out pus tubes and abscesses of the ovary. These troubles are very common; hundreds of patients in every city are dying from pus to-day. It is surprising, the number of women dying in small towns and small cities from abscess.

About drainage. I would stop pelvic surgery if there was legislation to prevent my using it. There is no need to use a large tube; a small one will drain as freely as a large tube.

Anesthesia should be as short as possible. As little ether should be used as possible.

Irrigation should be very thorough. I have been in the habit of closing the abdomen full of water in bad pus cases. Simpson prefers the dry treatment, without irrigation, using sponges. I think it is impossible to make a clean cavity with sponges. I think it is high time we American surgeons ceased following Martin's methods. We cannot afford to risk the lives of our patients by following the methods of a man who has lost fourteen patients out of seventy-seven cases.

DR. TAYLOR.—About seventy years ago, MacDowell made the first ovariotomy. It is almost true to say that the operation for the time being died again. In the year 1843, in July, the operation referred to by Dr. Price was made by Atlee. Two months later, the first ovariotomy in the West after MacDowell's, forty-six years ago yesterday, was made by Dr. Alexander Dunlap, whom I have the pleasure to introduce to you.

DR. DUNLAP.—The last gentleman on the floor stated that Atlee and Dunlap were surgeons before they attempted this operation. Gentlemen, I do not claim to have been a surgeon at all. I only claim what I claim for every good and successful surgeon, that he has a gift from nature that he will never be able to learn.

I finished my first operation just as I do to-day. I pierced the pedicle and tied a double knot with silk. I always waxed the silk until I got it thoroughly imbued with wax. I sent a report of the case down to Harrison, and he sent it back to me and said he would not publish such an article, because it would encourage some other men to do a foolish operation; and I tore up the manuscript. Since then I have done nearly four hundred laparotomies; the last was day before yesterday. The woman was doing well when I came away this morning. My operations have been a little over eighty-three per cent of cures out of the whole number, and some were cases I would have preferred not to undertake. Some died from accidents that ought not to have happened. I never have used drainage to any extent at all, and I never put in any drainage tube. My mode of operating is to make a good long incision, open the cavity, and get down and see what you are doing. I use a good big needle, long enough so I can pass it down through the edge of the abdomen until I get it into the peritoneum, then through on the other side; and it takes a good long needle to do that. I am careful to bring the parts into coaptation. I put the stitches about an inch and a half apart,
and intervening I put the isinglass plaster. At the end of the third day, I always take those stitches out, and the union is perfect. I never had any cases of hernia or tetanus.

Dr. Hall, of Cincinnati.—I am confident that in pelvic surgery, in that class of operations mentioned by Dr. Price this morning as filthy and dirty operations, we cannot have a low mortality without the use of the drainage tube. In all the operations where the adhesions are firm and extensive, and pus in the tube and tissues, I follow the practice so thoroughly advocated by a number of speakers this morning: put in the drainage tube in all doubtful cases, and, for the last two years, in all cases not doubtful. It is essential to have careful after-treatment, the first day or two particularly. I never feel perfectly safe until after the fourth night has passed.

Dr. L. S. McMurtry, of Danville, Ky., then read a paper on INTRA-PELVIC INFLAMMATION: ITS PATHOLOGY AND TREATMENT.

The following points bearing upon the pathology of intra-pelvic inflammations are practically established: (1) Intra-pelvic inflammations cannot properly be classified as parametritis and perimetritis, inasmuch as inflammation of serous and cellular tissues cannot be separated clinically or histologically. (2) Periuterine phlegmon of Nonat (pelvic cellulitis of Emmet) is as rare as inflammation of the cellular tissue in other parts of the body. (3) Intra-pelvic inflammation is, as a rule, *peritonitis*, resulting from disease of the ovaries and Fallopian tubes, arising in puerperal or gonorrheal infection, or the miscellaneous infections carried to the endometrium by unclean instruments, tents, or medicinal agents, or from traumatism. (4) Pelvic peritonitis is symptomatic, never idiopathic.

Intra-pelvic inflammations present every grade of severity from a mere inflammatory spot to general peritonitis and abscess. In the mild grade of inflammation, similar in nature and extent to light attacks of pleurisy, there is a mere inflammatory spot, giving some discomfort for a time and passing away without treatment, leaving a bare trace of adhesions behind. A higher grade is illustrated by those cases wherein, with subserous congestion, transudation of serum and exudation of plastic material obtain, forming an accumulation in Douglas’ pouch. Following M. Bernutz’s illustration by analogy, this condition corresponds to pleurisy with effusion. In the highest grade of inflammation all the intra-pelvic structures participate; the inflammatory process passes through the stages already described, and goes on to suppuration, septic infection, and often to death. In the severe grades, the products of inflammation are deposited upon the serous surfaces covering the uterus, ovaries, and Fallopian tubes, leaving these organs imbedded and entangled in a mass of adhesions and bound down by bands of false membrane. As time goes on, these layers of exudate pass through the stages of congestion to that of organization into connective tissue, with progressive
contraction. The ovaries and Fallopian tubes, being the centre of infection, are the focus of inflammatory deposit. The ovaries, bound down and subjected to pressure, undergo inflammatory and degenerative changes. The fimbriated extremities of the tubes are destroyed and the entire tubes imprisoned in the exudate. The menstrual congestion with continued recurrence adds to the troubles by rendering tense these bands and strengthening and increasing the adhesions by constantly repeated congestion. The lesions entailed by pressure are increased by imprisoned secretions, and ovarian abscess and pyo-salpinx are common results.

In treatment, it must be remembered that pelvic peritonitis is symptomatic, the most common cause being the presence of some infection. Catarrhal inflammations of the endometrium, extending through the tubes, may imprison the secretions, which, undergoing decomposition, may beget peritonitis. Such are the cases resulting from exposure and cold during menstruation. To recount the various pathological conditions of the uterus, Fallopian tubes, and ovaries with which local or general pelvic inflammation is found, would exceed the limits of this paper. I address my remarks especially to the indications for operative interference. In consequence of the matting together of the pelvic organs by the exude, differential diagnosis as to exact seat and extent of lesions is impossible. When rest, the hot vaginal douche, and frequent saline purgatives fail to secure resolution, and septic symptoms appear, we have to deal with pelvic abscess. The only treatment is to open the abdomen, evacuate pus, remove inflamed and degenerated structures, and establish drainage. When bands of false membrane have imprisoned the ovaries and tubes, destroying function and rendering the patient a miserable invalid, the abdomen should be opened, the organs released from adhesions and degenerated structures, and inflammatory products removed. The latter class of cases must be selected with careful discrimination.

Dr. Montgomery, of Philadelphia, in discussing

CRANIOTOMY UPON THE LIVING CHILD,

strongly advocated Cesarean section as an alternative.

The living child has an inherent right to life, which has been more or less recognized through all ages.

He said, in conclusion, that the history of the science demonstrates:

1. That craniotomy as an elective operation in the living child is unjustifiable.

2. That in cases in which the condition has been overlooked, and the woman comes to full term with a pelvis contracted sufficiently to preclude the delivery of a living child per vias naturales, the Cesarean operation should be performed.
3. That the improved Cesarean operation, barring exceptional cases, is preferable to the Porro.

4. It should be done, where possible, prior to the beginning of labor, and under aseptic precautions.

Dr. A. Vander Veer said: The discussion of the Cesarean section as an alternative of craniotomy is inseparable from the other surgical procedures designed for the delivery of a living child—the operations of Porro and Thomas. As an abdominal surgeon, one is bound to be conversant with each of these varieties of procedure and the special indications for the employment of each. Poorly equipped is he who has but one resource in the treatment of cases where supra-pelvic delivery is demanded.

Regarding difficulties of the technique of the operations, there is no great difference. The difficulties of one are counterbalanced by difficulties of the other. However, for the unequipped the Cesarean would doubtless prove the easiest to perform, but there are already so many good abdominal surgeons that they are accessible in all parts of the country. In any of the operations great manual dexterity is required. The range of the applicability of the Cesarean is of all the greatest, followed by that of the Porro, with laparo-elytrotomy with the least range of usefulness. The avowed purpose for which the operations of Porro and Thomas were instituted, i.e., the lessening of the mortality of supra-pelvic delivery, has failed to meet the expectations of their advocates.

Probably laparo-elytrotomy will soon be replaced by either the Cesarean section of Sänger or the operation of Porro. I predict that another decade will have relieved Cesarean section of many of its terrors, that the mortality will not be greater than fifteen and may be less than ten per cent, and these results will be attributable to a livelier interest exhibited by the profession at large, to improvements in the technique of the operation, and withal to a more skilled class of operators. In the Cesarean section, I desire to be placed on record as being in favor of removal of the uterine appendages, thereby adding little to the risk of the recovery of the patient, and preventing the possibility of another pregnancy.

Dr. Wathen closed the discussion.

Dr. E. E. Montgomery read a paper on

VAGINAL HYSTERECTOMY.

THE DRY EXTRA-PERITONEAL TREATMENT OF THE STUMP IN HYSTERECTOMY.

By Dr. Joseph Price, of Philadelphia.—The author advocates this treatment, and describes the method he now uses as follows: After the clamp is applied, the stump is cut off and trimmed down so far as seems compatible with safety. The stump is then drawn down into the lower angle of the incision, and its peritoneal covering above and below the wire stitched to the abdominal peritoneum, two or three stitches being all that is required. This shuts out all possible chance of sepsis.

A dry dressing of iodoform gauze is applied. Other antiseptic

1 These papers will appear in full in a near number of this Journal.
powdered substances, such as salicylic acid, or subnitrate of bismuth, may be used if desired. In case of large, succulent stumps, the bichloride may be directly applied. The result of this treatment is that the stump is completely mummified, and in a few days, varying according to the progressive tightening of the clamp, drops off without odor or discharge. The union of the incision is scarcely delayed. That absolute safety may be assured it is of the greatest importance that a reliable wire be used. The daily tightening of the clamp keeps up a constant strain on the metal, while at the same time it brings the wire into a greater curvature. The metal must be, therefore, pliable but strong, and not ductile, as copper. To fill these conditions, I find the "Delta metal" most suitable.

A CASE OF METREMPHYSEMA.

By Thomas E. McArdle, A.M., M.D., Washington, D. C.—Mrs. T., 30 years old, was delivered of her first child, a girl, on the 28th of October, 1886. From this time until the 19th of May, 1888, she enjoyed fairly good health. On that date, her second child, another girl, was born. Six weeks later she began to suffer from a profuse leucorrhrea, and to be greatly annoyed by the voluntary expulsion of gas from the vagina. Every day her embarrassment grew worse, and at night she was unable to turn in bed without being conscious of the audible report made by the escaping gas. Her condition became painful in the extreme, as she was shut off from all society other than that of her immediate household. Once or twice when she made the attempt to see her friends she was suddenly overwhelmed with confusion by a loud passage of air from the vagina. In July she placed herself under my care. An examination revealed a laceration of the perineum to about the centre of the triangle, one side of which is covered by the vagina—that is, to the second degree of Thomas. There was a moderate unilateral laceration of the cervix and subinvolution of both the neck and body of the uterus, together with a subacute cervical and corporeal endometritis. Both lacerations dated from the birth of the first child.

Rest, good nutritious diet, avoidance of everything calculated to disturb digestion, special attention paid to the procurement of a daily movement of the bowels, frequent hot-water douches, applications of nitrate of silver, Churchill’s tincture of iodine, iodoform, depletion by glycerin, together with the internal and external application of electricity, formed the plan of treatment. At the end of two weeks she became very much better, and after six months of more or less persistent care she was able once again to go amongst her friends without being haunted by the idea that an unexpected and involuntary explosion of gas from her vagina would cause a blush of shame to mantle her cheeks. Of course, by such treatment the lacerations of the cervix and perineum

70
have not been repaired. More decided surgical measures will be necessary to accomplish such an end.

I have entitled my paper "A Case of Metremphysema." Metremphysema is derived from two Greek words, metra (μητρα, the womb) and emphysema (ἐμφυσήμα, I blow). Duglison, however, makes metremphysema a synonym of physometra, and defines the latter as meaning "a light, tense, circumscribed protuberance in the hypogastrium, obscurely sonorous, with wind occasionally discharged through the os uteri with noise."

But there was, in the case just reported, no tumor ever discovered by me other than that due to the subinvolution of the uterus. It is true, however, that the explosion of gas never occurred while I was present, and, as the accident happened frequently, there was never much time given for a large amount of gas to accumulate, thus perceptibly distending the uterine walls. I am firmly convinced that the woman did not draw air into the vagina by the assumption of some special position, and subsequently discharge it with an explosive sound. Such a condition may occur when the triangle is divided through and the keystone is removed from its place in the arch. I have such a case under observation at the present time which I hope to cure by restoring the perineum. Thomas says that garrulitas vulvae or flatus vaginalis occurs in about one of a hundred cases of destruction of the power of the perineal body. But the history of Mrs. T.'s case, and the cessation of the explosions after the involution of the uterus and the cure of the endometritis, justifies me in believing that the air came from the uterus, and was not merely drawn from the outside into the vagina. It is not my purpose to enter fully into a discussion of the subject of metremphysema. Dr. H. C. Yarrow's valuable paper on "Physometra" in the American Journal of Obstetrics, August, 1883, seems to me fully conclusive that the condition exists more frequently than many authorities are willing to concede. Various theories have been offered in explanation of this phenomenon. The presence of some decomposed substance in the uterus, such as a fetus, a placenta, or retained menstrual fluid, would, of course, account for the accumulation of gas, especially if there were some impediment to its escape. But in the case I now report there was no such substance locked up in the uterus. I have already said there was a morbid condition of the mucous membrane; the utricular follicles were the seat of disorder, and their secretory function was greatly exaggerated. The decomposition of such secretions would account for the presence of gas in the uterine cavity. But, besides, there is no doubt that the blood-vessels of the matrix sometimes secrete within its cavity a peculiar gas. Dalton tells us that every organized tissue has the power of absorbing oxygen and exhaling carbonic acid; hence there is no reason to doubt that carbonic gas may be secreted by the lining membrane of the uterus. In accounting
of Obstetricians and Gynecologists. 1107

for the presence and expulsion of gas in the case of Mrs. T., I
would say that decomposition of the uterine secretions occurred
very rapidly, and they were retained by the presence of a cervical
plug of mucus. Whenever this plug was dislodged by any means
whatsoever, the gas found vent and was discharged with expul-
sive force. The cure of the endometritis and the restoration of
the endometrium to its normal condition resulted in the stoppage
of the hypersecretion, and hence the formation of gas ceased.

THE ANIMAL SUTURE: ITS PLACE IN SURGERY.

By Henry O. Marcy, A.M., M.D., LL.D., Boston.—Dr. Marcy's
paper upon the uses and advantages of the animal suture is an
exhaustive article, and contains much that is interesting and of
great practical value. The history of the subject necessarily in-
cludes that of the ligature, with which term it is even yet often
confounded, many authors, after using stitches, both interrupted
and continuous, and closing them into the deeper parts of a
wound, calling them ligatures.

Dr. Marcy reports his experience with the buried animal sutures
applied to all variety of wounds. He recommends their use only
by thorough disciplinarians of aseptic surgery under the rigid
rule, "an aseptic suture aseptically applied in an aseptic
wound."

Dr. Marcy claims that a wound evenly approximated should be
closed by buried animal sutures, taken from side to side lightly
through the deeper layer of the skin, and covered by iodoform-
collodion as a germ-proof dressing. Drainage in all non-infected
operative wounds is not only unnecessary but detrimental, and
should not be used.

Dr. Marcy clearly shows that he was the first, not only to use
aseptically buried animal sutures, but that he published his ex-
periences five years before Werth in Germany, to whom the
credit in Europe has been generally given.

LIGATURES AND SUTURES—WHAT MATERIAL SHALL WE USE?

By Dr. Clinton Cushing, of San Francisco.—The following
list embraces all that the author is entitled to an opinion upon
from personal observation: Catgut, silk-worm gut, silk, silver
wire, elastic ligature.

For the past three years I have prepared with my own hands
all the catgut that I have used; and a large experience with it has
led me to believe that it is the best obtainable material in certain
cases of plastic and abdominal surgery.

I use the three sizes of catgut strings used on the violin. I get
the best quality, and put them in ether for forty-eight hours until
they become perfectly white, as the ether removes from the cat-
gut all the animal oil. They are then placed in a mixture of three
parts alcohol and one part juniper oil, with the addition of three
drachms of hydronaphthol to each quart of the fluid. After ten days they are ready for use.

The largest size, or D string, I use for ligating the pedicle in ovariotomy and for repairing the perineum. The A string, or middle size, I use for repairing the cervix and for a buried suture in either the perineum or the abdominal wall. The E string, or smallest size, I use for ligating adhesions and bleeding vessels in the abdominal cavity.

The D and A strings do not become absorbed by the tissues in less than from seven to nine days, as can be easily demonstrated by observation.

For repairing the cervix I have found catgut more satisfactory than any other material, as it does not cut out of the tissues, and holds sufficiently long to secure union. The only disadvantage thus far noticed is that occasionally a small fistulous tract remains along one of the suture holes.

The cervix is closed by tying a strong double knot in one end of the suture, and by using a running or whip stitch the wound is closed very rapidly and easily.

The needle should have a large eye and a triangular point—qualities which are not found in the needles in the instrument shops.

For the perineum I use a large darning needle, which answers admirably.

The advantages of this heavy suture for the perineum are that it does not cut out, that it fills the track made by the needle, that it does not cause suppuration, that it remains sufficiently long to secure union, and that it does not require removal. These advantages are very manifest where both the cervix and the perineum are repaired at the same sitting.

Olshausen says: "The objections to catgut, that it slips easily, that it is impossible to pull it tightly, and that the knots will loosen, are not justified if the ligature is properly made." "In eleven autopsies in cases of ovariotomy in which the pedicle had been ligated with thick catgut, I found the ligature perfectly firm and unsoftened, although death had not occurred in six cases until the sixth to the thirteenth day."

J. Greig Smith, in his recent work on abdominal surgery, says: "As material for ligature there is no strong objection to catgut. I have used it and nothing else in more than twenty ovariotomies, and find it perfectly reliable."

I am convinced that surgeons who have failed with the use of catgut have used it of too small calibre, or have trusted to the specimens found in the shops—samples, perhaps, of unknown age.

Silk-worm gut has qualities that are possessed by no other material—that of being absolutely unirritating to the tissues in which it is imbedded, and non-absorbable, at least for a long time. I believe it to be the best material for closing the abdominal wall
after an abdominal section. No stitch-hole abscesses have occurred in any of my cases where this material has been used.

It is also an excellent material for perineal sutures. Instead of tying it and leaving the sharp ends to prick and annoy the patient, I slide over the two ends of the stitch a perforated shot in which has been tied a loop of strong black silk an inch in length. When the parts are approximated, the shot is run down to the perineal surface and clamped firmly, and then the ends of the stitch are cut off on a level with the surface of the shot. Now, when the sutures are to be removed, the loop of black silk enables you to draw the shot up so as to make it easy of access, in order that one side of the stitch may be clipped.

Silk thread, when aseptic and buried in tissues that are also aseptic, is one of the best materials that can be used; but in the skin or in the mucous canals, or in the peritoneal cavity when this cavity has been made septic by the presence of pus, the porous nature of the silk tends to produce injury to the tissues with which it is in contact, and in the case of the peritoneal cavity tends to keep up the existence of fistula or abscess until it is discharged.

In the case of pyo-salpinx, pelvic abscess, or suppurating hematocele, or in any case where it is necessary to leave a drainage tube in the peritoneal cavity after an abdominal section, heavy catgut, properly prepared, is the best material if we wish to avoid fistula; but in a simple case of ovariotomy where no drainage is required, the properly prepared silk thread is all that could be desired.

I have had made at the silk factory in San Francisco a kind of heavy silk, for the pedicle in ovariotomy cases, which seems to me to possess some advantages over any that I have seen. It is made of the best quality of Chinese silk, thoroughly washed and extremely soft. It is very loosely twisted, and when tied applies itself smoothly to the parts without cutting. The knot does not slip, as is the case with the harsh and tightly twisted silk found in the shops.

In injuries of the bowel, and in a resection of the bowel, fine sewing silk is probably the best and safest material.

I first boil the silk for half an hour with hydronaphthol and water, and afterwards place it in a strong solution of absolute alcohol and hydronaphthol, and it is then ready for use.

The silver wire I have not used of late years, except in cases of vesico-vaginal fistula; but I doubt not the silk-worm gut would be equally as good in these cases, and much more easily handled and introduced.

The elastic ligature, although used successfully by Olshausen for ligating the pedicle in ovariotomy, I have only used as a temporary ligature to the pedicle in abdominal hysterectomy for fibroid tumor; but I believe Schroeder's method of intra-abdo-
minal treatment of the stump will be the one adopted in the future.

SOME CONSIDERATIONS ON PERITONEAL EFFUSIONS AFTER INTRA-
PERITONEAL OPERATIONS.

By Dr. William H. Myers, Fort Wayne, Ind.—The author, after stating the diseases resulting from the presence of serum and the effusion of lymph, said that they are always met with in peritonitis, and are known as serous, sero-fibrinous, and purulent, these distinctions being based upon the character of the exudation. The rapid formation of lymph is referred to by citing the experiments made by S. D. Gross in 1840 on dogs, and also the adhesion experiments of Senn. The author says: "I am of the opinion that a much shorter period is required for perfect union to take place than is stated above. When the blood ceases to flow after an incised wound, exudation invariably follows, and the surface becomes glazed with plastic lymph."

The conditions are next alluded to that determine one or other variety of lymph, according to Paget, who assures us that he could usually guess from the examination of the fluid in a blister the tendencies of the inflammation: in the highest health unmixed fibrin, in the lowest health abundant corpuscles and a near approach to the character of the pus cells; the effusion depending upon the vital power. Rokitansky is quoted that the products of inflammation exist preformed in the whole blood, and that the most marked differences of inflammation are manifested in its products. The idea that these differences are only one of degree is not sustained; that the doctrine of the late Professors Mutter and Gross, that the inflammation must not run too high or we have pus, is not believed, but that it will be more in accord with the scientific tendency of the present pathology to divide inflammation into simple and infectious, the latter being dependent upon the presence of specific microbes, they being the only essential cause of suppuration. It is now assumed that the growth and activity of micro-organisms depend upon the soil or media; that healthy living tissue possesses certain powers of resistance; that life is the great antiseptic. This view is supported by Lister, Cameron, and Billroth.

Recovery is often largely due to the high vital energy of the peritoneal surface in intra-peritoneal operations. A wound in the peritoneum heals with great rapidity in proportion as it is capable of resisting the development of putrefactive bacteria; in case of shock and depression of vital power the entrance of micro-organisms is permitted.

Hence the inference is, not to delay in intra-peritoneal operations for fear that the inflammation, if it ensues, will not be adhesive but suppurative, and that the doctrine held by some ovariotomists, to wait until the health is impaired, is not sanctioned by sound
pathology. This doctrine, to wait, has been held by Sir Spencer Wells, Peaslee, W. L. Atlee, Tyler Smith, and Errichs.

As the name of Thomas Keith has been placed in the list of those advising delay, I wrote a letter to him containing the following question: When would you operate in case of ovarian tumor, the diagnosis being clear? In reply I received the following letter:

42 Charles St., Berkeley Square, W.  
July 9th, 1889.

My Dear Doctor:—I have much pleasure in answering your letter of June 26th. I think that, as soon as you are sure of your diagnosis, the sooner an ovarian tumor is taken out the better. It can only be a source of danger. My early training in abdominal surgery—when at first operating we had only bad cases and large tumors to deal with—was rather for a time against early interference, because the risk of the operation was then great, or seemed to be great, in any case. I have long got over that, and now always advise early operation . . .

Yours very sincerely,
Thomas Keith.

The presence of serum in the peritoneal cavity is next referred to, and its decomposition believed to be a most frequent cause of death. Peritonitis is much less frequent than stated in the books. After operation it is a question of sepsis whether the patient recovers or not. We have devoted too much attention to peritonitis and lost sight of the accumulation of serum and its rapid decomposition when effused into the peritoneal cavity.

To those who still believe, with Baker Brown, that "it's the peritonitis that beats us," to such I would address the exhortation of Oliver Cromwell when he lost patience with the Scotch Assembly and said: "I beseech you, brethren, by the mercies of God, conceive it possible that you may be mistaken."

SOME POINTS IN THE DIAGNOSIS OF PYO-SALPINX.

By Dr. Rufus B. Hall, Cincinnati.—This disease, said the author, entails much suffering upon the individual afflicted with it, and, by reason of the clinical interest and consequences, equals if not surpasses in importance any other affliction which the gynecologist is called upon to treat. He believes that the importance of the part played in the production of suffering in the victims afflicted with the disease has not received the attention from the profession at large that the subject justifies, especially when it is remembered that the general practitioner first sees and treats the great majority of these cases for a longer or a shorter time before they are seen by the operator. The subject of diagnosis, which is avowedly difficult to the specialist in his own department, is obviously more difficult to the general practitioner; and if we hope or expect to afford relief to a great number of suffering
women all over our land, the subject of diagnosis must be more fully understood by the profession at large than at the present. It is conceded by all members of the profession now that diseases of the Fallopian tubes are a prolific cause of serious functional disturbance, and that they not infrequently cause death, and that the removal of the diseased structures is justifiable in properly selected cases. But what we need most is to be able to make the selection, and decide when the palliative measures may be persevered in and when operative interference becomes necessary. The author believes that pyo-salpinx so often follows the other inflammatory diseases of the uterine appendages that he is compelled to refer to them frequently in discussing the subject, and says that salpingitis so often succeeds endometritis that the symptoms are merged with those of the primary disease, or are so completely masked by them that it is not suspected until pelvic peritonitis occurs. The importance played by septic infection in the production of inflammatory disease of the uterine appendages is the cause of these diseases in a very large percentage of cases, although it may be impossible to trace its origin in all of them. Owing to the unfavorable condition always present for the healing of the inflammatory process, acute exacerbations occur from trivial causes; the repeated attacks finally cause complete closure of the ends of the tubes. In consequence of the closure of the tube, the normal secretions of the tube soon become pathological, and, by the repeated attacks of inflammation, may, and not infrequently do, become changed into pus, producing the typical pyo-salpinx. While he is convinced that pyo-salpinx not infrequently follows puerperal diseases and gonorrheal infection, he does not believe that they are the only ailments which are likely to be followed by this complication or that they are the most frequent cause of the disease. He has operated upon a number of cases where no cause could be assigned or traced other than repeated attacks of inflammation following a cold contracted at the menstrual period. He believes that the disease may be contracted in two different ways: (a) by a chronic process causing dropsy of the tube, which by repeated attacks of inflammation is changed to pus; (b) it may be rapidly produced by an acute process following gonorrhea and puerperal diseases. In no class of diseases is the history of such vast importance as the one under consideration—a history of almost constant suffering of some years’ standing, directed especially to a certain locality, perhaps originating in an attack of pelvic or an abdominal inflammation, either connected or not with parturition. To this we may add sterility, and we have a history which will help us very much in forming a correct diagnosis. While physical signs are important, they are not more so than the history itself. By vaginal examination we can usually recognize diseased appendages. Yet this is not always possible. If we have a pyo-salpinx, we should be able to recog-
nize a diseased mass behind or upon one or both sides of the uterus, and in the large majority of cases exceedingly sensitive to pressure, which cannot be displaced or pushed upwards with the examining finger. In most cases it is difficult, and in many it is impossible, to make out the exact diseased condition of the appendages by physical examination, except in cases of pyo-salpinx. But we are usually able to say that disease does or does not exist, and, taking this with the history of the case, we will not have much difficulty in deciding whether or not the case is serious enough to justify us in recommending an operation. In pyo-salpinx, we usually have an irregular ovoid tumor showing swelling and constrictions not found in any other pelvic tumor except tubal collections. This tumor is usually of small size, and we have the sensation of indistinct fluctuation imparted to the finger on vaginal examination. The tumor may be in the retro-uterine space, extending towards the pelvic brim on the one side, with a second tumor on the other side higher up; and there may be distinctly felt a narrow furrow, which is caused by a portion of the uterine end of the tube remaining undistended by pus, while the distal end is enlarged to form the tumor. This furrow is not so plainly felt in those cases where there is a periodical discharge of the pus through the tube into the uterine cavity; this is a very valuable sign in making a diagnosis. In fact, if we have all the other symptoms of pyo-salpinx, with a history to confirm them, where we can feel the enlarged tube before a discharge of pus from the uterus, and immediately after the discharge has occurred we find that the tube has collapsed, then we have positive proof of the existence of pyo-salpinx.

The author believes that the diagnosis of pyo-salpinx is not so difficult as generally believed, if the previous history of the case is carefully inquired into and given due consideration and weight. The uterus is more or less fixed and misplaced. In most of the cases seen by him there has been a history of more or less pain during defecation, particularly marked in those cases where the tumor occupied the retro-uterine space. Most of the cases of pyo-salpinx coming under his observation gave a history of dyspareunia. If pain has been a prominent symptom, extending over a long period of time, and it is evident that the tube contains pus, the case must be looked upon as serious and demanding prompt relief. The same surgical law should govern us in the management of these cases as in every other surgical disease, "when pus is present let it out," and the way to let it out is to remove the offending tube. Delays under these circumstances are dangerous. The bursting of the tube containing pus may cause fatal peritonitis—an accident that he has seen follow in a number of these cases when a proposed operation had been refused.
The President congratulated the Association on the success of the first meeting at Washington, and on the valuable publication made, and thanked the medical journalists for their kindly comments on the work of the Association.

The recent lecture of Sir T. Spencer Wells and the statistics of Munchmeyer show the propriety of uterine extirpation, and Wells' terse words, "The best means to prevent return is to operate early," must become an aphorism for our guidance; though the very essential factor, ability of early diagnosis, is still a desideratum.

The low death rate of myomata, and the great mortality from operation for their removal, suggest the propriety of rare resort to such operation. The brilliance of operative procedure obscures other work, and the apparently greater gravity of a case justifying an important operation diverts attention from suffering less severe; such minor ailments are, however, just as needful of care.

Schultze's and Hermann's recent publications regarding uterine displacements are likely to improve our management of such cases.

Subjects which seem to have been definitely settled are again revived and become the theme of active controversy, of which fact the discussion of the phenomena and conduct of the third stage of labor is an instance. We all know that debate on this topic has continued for several years in Germany, apparently with little benefit either to the combatants or to science; but the subject assumes much practical importance after the statement recently made by Duhrssen that "one woman dies every day in Prussia from post-partum hemorrhage."

Remembering that this fatality can occur only among a limited portion of our population, this would seem like a large mortality.

Assuming the period during which it could occur to be between fifteen and fifty years of age, we should have, according to our census reports, one death from hemorrhage after delivery in less than two hundred from all causes, among women in the period mentioned.

The great confidence we have had in the usual method of dealing with the placenta might lead us to the belief that we should be exempt from such disaster, but just now our idols are being shattered, and a man as eminent as Dr. Berry Hart has said: "I consider the Credé the most dangerous plan possible for the separation of the placenta."

With these facts and these statements so much at variance with generally accepted opinions, certainly it is the part of wisdom carefully to survey the ground upon which our confidence is built.

The very satisfactory results of Cesarean section recently estab-
lish it as an operation which must be resorted to if the obstetrician would escape censure, and the success of the Porro modification must lead us carefully to seek to determine to which cases it is adapted and to which Sänger is the more appropriate.

The recent advances in all departments of science and the wonderful practical application of newly acquired facts disarm incredulity, and we dare place no limit upon the possible acquisitions of the near future.

The Utopias of to-day may be the familiar dwelling places of to-morrow, and, actuated by the noble sentiment which so characterizes our profession, of seeking the truth for the truth's sake, we may be sure of grand additions to our knowledge and skill, and I can utter no better benediction than the hope that this Association may bear its full share in making these acquisitions.

At an executive session, the following officers were elected:

President, Dr. E. E. Montgomery, of Philadelphia.
Vice-Presidents, Drs. W. H. Myers, Ft. Wayne; R. L. Banta, Buffalo.
Secretary, Dr. William Warren Potter, Buffalo.
Treasurer, Dr. X. O. Werder, Pittsburgh.
Executive Council, Drs. A. Vander Veer, Albany; Clinton Cushing, San Francisco; C. A. L. Reed, Cincinnati; W. H. Wathen, Louisville; H. E. Hill, Saco, Me.

Philadelphia was selected as the next place of meeting.

The following Honorary Fellows and Fellows were elected to membership:

Honorary Fellows, Prof. F. Winckel, of Munich; Drs. B. S. Schultze, of Jena; Fr. Eklund, Stockholm; A. Charpentier, Paris; J. Halliday Groom, Edinburgh; A. H. Freeland Barbour, Edinburgh; Prof. Freund, Strassburg; Thomas Keith, London; G. Leopold, Dresden; Geo. Granville Bantock, London; M. Sänger, Leipzig; Alexander Dunlap, Springfield, O.

1. Pichevin: Eenucleation of Uterine Myoma by Abdominal Section (Nouv. Arch. d'Obstét. et de Gynéc., April, 1889).—This is the ideal operation when the intramural tumors are too far from the uterine canal to use that method. Operation by Deléris. Patient 44 years of age. Menses regular; married at 18. Apparent normal recovery from first confinement, except pains in left pelvic region, which were irregular until within the last two years, when they became so excessive as to prevent walking. Cauterizations, pessaries, and tampons afforded no relief. Examination showed relaxation of the vaginal walls, a slight degree of cystocele and rectocele with prolapse of uterus, and by rectal touch a tumor the size of a walnut, situated on the posterior wall five centimetres from the posterior lip of the cervix, and a second tumor, higher up, attached to the left horn. The uterus was displaced to the left and posteriorly.

Anterior colporrhaphy was performed to restore the pelvic floor, but did not relieve the symptoms, so laparotomy was decided on. The usual incision was made, and the tumors disclosed and found attached as diagnosticated. A transverse incision over the most prominent portion was made, the coverings dissected off with the finger nail and blunt scissors, while the uterus was elevated per vaginam. The pedicle of the tumor was severed by torsion and the wound closed by continuous catgut suture. No hemorrhage. The second tumor was situated in the right posterolateral wall at the fundus. The same method was pursued as with the first, except that, owing to a slight hemorrhage, the suture was introduced before the complete ablation of the tumor. The external wound was closed in the usual manner by hair suture. No evil after-effects showed themselves, and complete recovery with alleviation of all symptoms was obtained.

2. Klasson: False Polyps of the Uterus (An. de Gynéc., February and March, 1889).—Besides the two classes of benignant non-recurrent uterine tumors, commonly known as fibrinous and mucus polyps, there is a class of pathological formations giving the same symptoms, but of very different structure. They are the result of retained membranes or blood clots, especially after abortions, may remain latent for a long time, and are exceedingly difficult of diagnosis, being very variable in consistence, situation, and other uterine conditions.

Fibrinous polyps are formed from layers of coagulated blood superimposed on the obliterating thrombi of the uterine sinuses after delivery, which, not being absorbed, project into the uterine cavity by reason of the contraction of the uterine tissues. This deposit may also be made on a bit of retained membrane or of placenta. They may appear as vegetations (Slawiansky) or may fill the whole uterine cavity.

Placental polyps are the result of retained placenta, especially after abortion, due to the greater adherenee of the placenta, the lessened uterine contraction, and the small size of the ovum, or to disease of the placenta or uterine membranes. Sometimes also they are favored by deformity of the uterus and by artificial delivery, though Crede's method of expulsion does not cause retention. In case of sufficient adherenee, placental tufts may con-
Abstracts.
1117

tinue to grow to large size. Küstner advises curetting after abortion, in order to prevent this. Many cases of hemorrhage three or even more months after delivery are due to these growths, which do not irritate until subinvolu-
tion has reached a degree sufficient to cause drawing on their attachments and consequent opening of the sinuses. The distinction between mere pla-
cental retention and placental polyps seems to be one of time, absence of putrefaction, and abnormal adherence.

Growth arising from organization of retained membranes, especially after aborti-
sions, the retention being caused by endometritis or by reason of the greater adherence in the early months. Ten per cent are such cases, as de-
scribed by Genesteix. The retained membranes are either discharged in the
lochia, or are reabsorbed, or form the basis of new growths. Rarely is the
whole decidua retained, the line of separation being generally between the
two and reflected layers. Rarely also parts of the chorion remain attached
to the decidua, the separation between the chorion and the amnion being due
(Roemer) to the difference in elasticity of the two membranes. He also be-
lieves that the longer the bag of waters is retained, the greater is the amount
of chorion left. Retention of membranes occurs in primiparae nearly twice
as often as in multipare (9% to 4.9%). The amnion is the membrane least fre-
quently retained. A study of cases shows that all these varieties of polyps
may occur, and that their symptoms may appear so late as to completely
mask their origin.

J. E. N.

3. Rouvier: Results of Precocious Marriages (Annales de Gynécologie, March, 1889).—A study of 1,400 cases in the Beyrouth Hospital. First
group: 11 nullipare; 5 first menstruated at an average of two years after
marriage. The 11 averaged twenty-nine years of age after fifteen years of
marriage. Five cases of malposition were probably negative; 2 cases of parenchym-
atous metritis, 1 of dysmenorrhea, and 1 of metrorrhagia were directly
traceable to the early marriage. In 1 case of endocervical polyp and 1 of un-
certain diagnosis no connection was found.

Second group: those having term deliveries; 29 cases; in 8 of these men-
struation came on ten months after marriage, averaged twenty-eight years of
age after sixteen years’ marriage; they had borne 31 children; 8 others,
married under fifteen years of age, at the end of fourteen and a half years
had borne 21 children; 13 others, married after puberty, had first menstru-
ated one year and eight months after marriage, and at the end of thirteen
and a half years of married life had borne 48 children.

Third group: both at term and abortion; 32 cases.

(a) In 9 cases menstruation came on one year and three months after mar-
rriage, and at the end of twenty-one years there had been 51 gestations, of
which 21 resulted in abortion.

(b) In 7 cases, married at puberty, after twenty-one years there had been
44 gestations with 11 abortions.

(c) In 18 cases, married an average of one year after menstruation, at the
end of eighteen years there had been 111 gestations with 33 abortions.

Fourth group: abortions only; 7 cases. These were married under four-
teen years of age, and at the end of twelve years had had only 11 gestations,
all ending in abortion.

In taking account solely of the time of beginning menstruation—

(a) 23 cases, married twenty months before menstruating, at the end of six-
teen years had had 83 gestations, of which 26% were abortions.
(b) 16 cases, married at puberty, at the end of eighteen years had had 65 gestations with 18% of abortions.

c) In 40 cases, married an average of eighteen months after menstruation, at the end of seventeen years there were 168 gestations with 25% of abortions.

In 78 of these cases inflammatory conditions were found 40 times, displacements 33 times, and other diseases 20 times.

Rouvier's conclusions are that by precocious marriage—
1. Fecundity is lessened.
2. The proportion of abortions is increased.
3. Inflammations, displacements, and deformities of the uterus are favored.

J. E. N.

4. Gilbert, Arwed: Birth at the Twenty-eighth or Twenty ninth Week of Gestation, with Survival and Satisfactory Development of the Child (Zeitsch. f. Gebarts. u. Gynäk., XVI., 1).—The child, a girl now six years old, weighed at birth about 1,580 gm. It was wrapped in cotton wadding, bathed daily, and the temperature of the room kept at 16° to 18° R. It was nursed for the first seven days by a wet-nurse, then by the mother; the child did not thrive, but became daily weaker. Beginning with the seventeenth day, the mother's milk was given to the child from a spoon, it being evident that the little one was too weak to suckle itself. When eighteen weeks old, it was given cow's milk, and occasionally egg, bouillon, zwieback, etc. The child passed safely through the dangers of infancy, and at the age of four years, though delicate and incapable of much exertion, resembled in growth and appearance the average child of that age. Like most prematurely-born children, it suffered from rachitis, signs of which developed in the thirtieth week; it was later on treated orthopedically for scoliosis, with good results. It began to walk at two and a half years. The first teeth appeared at sixteen months.

L. R.

5. Chambrelent: Acute Meningitis an Indication for Premature Delivery (Ann. de Gynée., Feb., 1889).—Obstetricians are almost unanimous in counselling delay in cases of acute disease occurring during gestation, because (a) it generally leads to abortion spontaneously; (b) operative intervention might aggravate the disease; and (c) the fetus generally shares the maternal disease, and hence its life is compromised. These considerations do not seem to hold in cases of acute meningitis, whether tubercular or not. Of this somewhat rare complication, observation of three cases showed that gestation had not been disturbed, nor did the fetus show any signs of the maternal disease. In four other cases, live infants were obtained—one by spontaneous delivery before death, two by instrumental delivery in extremis, and one by post-mortem Cesarean operation.

An objection might be made that, as tuberculosis is transmissible, there would be no object in obtaining an infant likely to die in a few days. In answer: (1) It is very difficult to say before the autopsy that the meningitis is or is not tubercular. (2) Fatal transmission of the tubercular diathesis from mother to child does not appear to be sufficiently established. One observation showed that not only did the mother have tubercular meningitis, but also general tuberculosis, while the fetus showed no trace of a like lesion, and inoculations made from it gave negative results. (3) Even if the objection were true, the physician has no right to discount the future, his first duty being to save all possible.
Abstracts.

1. Young woman, 18, admitted on diagnosis of vomiting of pregnancy at three months. Next day, delirium, cephalalgia, photophobia, and pupillary dilatation set in, which, with a slight remission, increased until death occurred on the twelfth day. There were no signs of uterine disturbance. The autopsy showed tubercles in none of the organs except the brain, while the fetus, its membranes, and liquor amnii were absolutely healthy.

2. Young woman, 20 years, in sixth month of gestation; admitted with intense cephalalgia and prostration, high fever and rapid pulse. Unmistakable signs of pulmonary tuberculosis. Death occurred on eleventh day. Autopsy showed tubercles in all the organs but the liver and the peritoneum. Examination, both gross and histological, failed to discover signs of disease in the fetus and its appendages. Two rabbits inoculated with lung tissue from the fetus and the mother respectively gave negative results for the first and positive for the second. These results are noticeable, since they demonstrate that the placenta is not an insuperable barrier to the transmission of noxious elements. Further, the meningitis has not led to abortion.

3. Young woman, in seventh month of pregnancy, with all symptoms of meningitis; died three days after admission, the fetal heart being heard up to time of death. No signs of abortion. Autopsy showed tubercle on the part of the mother; none in the fetus. Four other observations of women in later stages of gestation in which living infants were obtained confirm these facts. Hence Chambrelent advises that in all cases of intercurrent acute meningitis after the seventh month of pregnancy premature delivery should be brought on before the death of the mother, with the best chance of a living child.

J. E. N.

6. Menchmeyer, F.: On the Value of Subeutaneous Injections of Chloride of Sodium in the Treatment of Profound Anemia (Arch. f. Gyn., XXXIV., 3).—After reviewing the history of transfusion and intravenous injection of saline fluids, with their evolution into the now more generally used subcutaneous injection, M. narrates eight cases in which the latter was employed. A .6% sterilized solution was employed. In addition to these eight successful cases the procedure was also resorted to in ten cases, in all of which death resulted. In the latter the anemia did not result from hemorrhage during or following labor, but was associated with great debility and collapse during laparotomy and operations of similar gravity; that is, the injections were practised upon individuals in whom the heart was the site of pathological changes accompanying disease, as, f. i., the brown atrophy often seen with uterine growths. In such cases, the chief factor, the possibility of the injected fluid being absorbed into the circulation, is wanting. The author believed that he waited too long in the few cases of hemorrhage during or following labor in which the injections were not followed by success; he admits, however, that there are not yet sufficient data to state decidedly why in one case the procedure is followed by good results, and in the other fails; nor is it possible to prove conclusively that those cases treated successfully would not have done as well without the injections. It appears from these eight cases that the results were the best when the quantity injected amounted to from 500 gm. to 1,000 gm.; in most cases one injection sufficed; in two it was found necessary to repeat it. By this it is not intended to convey the impression that in each case of dangerous hemorrhage one injection of a given quantity should be given; on the contrary, the injection should be repeated until a good result is
apparent; in most of the author's cases favorable reaction occurred shortly after the injection; the reaction showed itself at the latest after three hours. Should no reaction occur by this time, the operation certainly should be repeated. The usual analeptics (camphor, ether, musk, etc.) should be resorted to before beginning the injection, as they aid in restoring impaired cardiac activity and facilitate the absorption of the saline fluid. The injections were generally made between the scapulae or in the neighborhood of the axilla, but the infraclavicular region is probably the best place. No inflammatory reaction occurred at the site of the injections. The apparatus for infusion (transfusion) consists of a glass funnel of moderate size, a rubber tube one metre in length, and a long needle. The latter is sterilized in an alcohol flame, and the whole apparatus disinfected with a five-per-cent carbolic solution. The first quantity of the saline solution which enters is allowed to run off, so as to flush the apparatus of the residue of carbolic solution; the site of the injection is also carefully disinfected; the entrance of air is prevented by keeping the funnel always full. It is advisable to further the distribution of the fluid by massage; should a large tumor form notwithstanding, a second and even a third place for injecting should be selected. The fluid should be of a temperature of about 37° C. The wound is covered by a pledget of cotton soaked in iodoform-collodion. L. H.

ITEM.

The "second obstetrical clinic" at the University of Vienna, rendered vacant by the death of the lamented Professor Breisky, has been furnished with a new chief in the person of Professor Rudolph Chrobak, for a number of years a popular and efficient teacher at the University, and the possessor, we are credibly informed, of the largest gynecological practice in Vienna. The editor of this Journal desires to congratulate his old friend of more than twenty years on his final attainment of the well-deserved reward of many years of hard and patient work, and the students of the Vienna University on their acquisition of a teacher no less thorough, and a clinical speaker no less brilliant, than his immediate predecessors, Spaeth and Breisky.

The competitors for the vacancy were Prof. Carl von Rokitansky, of Vienna; Prof. Pawlik and Prof. Schanta, of Prague, all well known and eminent in the specialty, but juniors in years and medical rank to Prof. Chrobak. The Minister of Education is to be congratulated on having so well accomplished the task of choosing from so distinguished a list of candidates.
OBSTETRIC CALENDAR.

The date in the inner circle indicates the commencement of labor, corresponding to that in the outer circle as the first day of the last menstruation before conception; the date in the middle indicates the average but quite varying time of the first perceptible motion of the child.

SUPPLEMENT TO

THE AMERICAN JOURNAL OF OBSTETRICS

AND

DISEASES OF WOMEN AND CHILDREN.

NOVEMBER, 1889.
CONCEALED PREGNANCY: ITS RELATIONS TO ABDOMINAL SURGERY.

BY

ALBERT VANDER VEER, M.D.,
Professor of Didactic, Abdominal, and Clinical Surgery in the Albany Medical College.

A half-century ago a distinguished German surgeon was called in consultation by a very competent obstetrician to a case in which the patient had apparently been in labor for three weeks. A Cesarean section was decided upon, and the abdomen opened, when, to the discomfiture of all, nothing but intestines distended with gas were found. That the professor was chagrined and in a vindictive frame of mind was demonstrated by the after-treatment, for he kept the abdomen packed with ice and applied two hundred leeches to the abdominal walls, and, in addition, subjected her to three bleedings. The patient recovered, and doubtless ever after desisted from trifling with the resources of surgery. This case has never been reported as a successful Cesarean section. From then until now errors relative to the diagnosis of pregnancy as a complication of abdominal section have occurred, and doubtless will continue to occur. No one has been free from the liability to this error. The most eminent and painstaking surgeon of extensive observation,
as well as the operator of few opportunities, have alike the same experience.

When mine came I must confess that I felt not a little humiliated. I asked myself, after a careful review of my notes and those of my assistant, Have I exercised all the care that is possible in the examination of my cases, and have my diagnoses been based upon good judgment? Text-books on obstetrics and gynecology furnished but little aid or comfort. The few cases reported were widely scattered, and many found in the tables accompanying this paper were secured only after diligent personal inquiry. Many of the moot questions of abdominal surgery have already been settled, and we are little benefited by papers devoted to the treatment of the pedicle, drainage, or the detailed histories of cases. I have thought that I might be able to contribute something for the benefit of the profession by giving the results of my investigations on this subject. I shall relate the histories of two personal cases of exploratory incision in which pregnancy as a complication of fibroid tumor occurred, and which was not diagnosed prior to the operation, either by myself or my colleagues, after repeated careful examinations.

I purpose treating the subject with perfect frankness. I have collected all reported cases wherein the same conditions existed, and personal inquiry has secured the histories of many others which are now presented for the first time. That the tables are incomplete I know, for some operators have either perverted the histories of their cases or have suppressed them altogether. This latter statement is capable of abundant proof. We shall later, when we come to the consideration of the table of cases, collect such facts as seem warranted from the clinical histories, and endeavor to draw from them such conclusions as are justifiable.


Mrs. E. C. W., aged 34, native of U. S., married, and by occupation a housewife. Family history decidedly tubercular. Patient gave history of past ill health; but, aside from an expression indicative of much pain and suffering, she seemed physically strong. First menstruation at 13, scanty and painful; menstruation always irregular, and has suffered for extended periods from amenorrhea. No children, no miscarriages. Was treated during 1883 for ulceration of the cervix with leucorrhea. June 5th,
1887, was the date for the return of her menstruation, but no flow appeared, and June 25th, 1887, she noticed a tumor in left iliac region, which grew rapidly and became very painful. Patient had a slight show July 4th; also noticed slight tingling and swelling in the breasts; no nausea or vomiting. I gave her a careful examination at my office, and made the following notes: Breasts slightly enlarged and tender, areola not marked by pigments, abdomen to the height of the umbilicus irregularly distended. Pulpation revealed a hard tumor on the left side and a softer one (semi-fluctuant) on the right side. No absolute signs of pregnancy after repeated examinations. Per vaginam a natural cervix could be felt high up, and a mass at the left of the uterus distinctly made out. I was in much doubt as to her condition, taking into full consideration the probability of a normal or extra-uterine gestation, also of fibroid or fibro-cystic tumor of the uterus. I advised that she enter the Albany Hospital for further observation, which she did a few days later. Upon examination and consultation by Drs. Boyd, Townsend, and myself, having agreed upon the physical signs already detailed, and having introduced a sound into the uterus three inches without result, in view of the distress and great pain of the patient an exploration was deemed advisable. A full explanation was made to the family, an operation advised and consented to by them, having in view the great probability of an ectopic gestation. Abdominal incision revealed two fibroids upon the left of the uterus, subperitoneal in character, and the remainder of the uterine tissue, especially upon the right side, seemed involved by multiple myxomata of a softer consistence. Adhesions were very general, precluding its removal. No further operation being advisable, abdomen was closed. Patient went on well until the fifth day, when localized peritonitis developed and rapidly became general. On evening of sixth day, abdominal wound opened in consequence of great distention of the bowels, due, in part, to peritonitis and obstructive pressure of fibroids. A large dressing was saturated with serous effusion. Wound was brought together by strapping. Next morning drainage was introduced, peritonitis subsided in a day or two, and case went on to recovery. Discharged from hospital November 8th, 1887, abdominal wound completely healed. November 13th I visited her at a friend’s home, and found her presenting a very good condition of health and able to move about the house. Advised the use of electricity, and requested her to let me know later on how she progressed.

December 24th, Dr. H. F. C. Muller, of Rensselaerville, who had originally referred the patient, visited me and stated that he had been called to attend Mrs. W. a few days previous. Arriving at her house, he found her partially delivered of a six months’ fetus. The doctor delivered the placenta, noticing quite an enlargement of the abdomen remaining. Patient recovered from her abortion slowly, and since I have had no opportunity for an examination.

Mrs. M. M. S., aged 35, native of U. S., and by occupation a housewife. Family history excellent, and before puberty enjoyed good health. First menstruation at 14, always regular, but suffered from dysmenorrhea and menorrhagia. The menstrual blood was always clotted. Married seven years. No children, no abortions. Three years previous had an attack of general peritonitis, from which she made a good recovery. Four years ago began to have a dull, dragging pain in the right iliac region and extending down the thigh. A very competent gynecologist was consulted, and he regarded the trouble due to the pressure of a displaced uterus. For the last eight weeks she had menstruated but one day at the time for her menstruation. About the middle of March, 1888, patient noticed a small, hard tumor in left iliac region, which gave rise to little discomfort. The tumor grew very rapidly after discovery, and was very painful, requiring the free use of anodynes to keep her comfortable. The breasts were tender, but the areola not markedly pigmented. The tenderness of breasts always occurred with menstruation. I saw her at her house in consultation with her family physician, Dr. J. R. Davidson, May 6th, 1888. Upon palpation, I found a growth in the left iliac, hypogastric, and extending upward in the umbilical regions and rather beyond the median line. It was very tender, nodular, and boggy to the touch. Upon percussion it was perfectly flat and did not fluctuate. Auscultation revealed no sign. Per vaginam the cervix could be made out far back towards the sacrum, but the body of the uterus could not be outlined. In the cul-de-sac of Douglas a body the size of an egg could be defined. Bimannually, cervix and growth moved as a single body. The uterine sound passed three and a half inches. Ballottement failed to elicit anything. The vagina was not distinctly tinged. The patient was examined by Drs. Boyd, Townsend, and myself a few days later. Although in consultation the intra-abdominal condition could not be agreed upon, from the urgency of the symptoms an exploration was deemed advisable—believing the growth to be a multiple uterine fibroma—with a view to hysterectomy or the removal of the uterine appendages. The abdomen was opened by the usual median incision, and upon examination of the growth it seemed sarcomatous in its nature, springing from the broad ligament and the body of the uterus. From the extent of the pelvic adhesions, and the great vascularity of the growth, and the bad prognosis of sarcoma, its removal was not undertaken. The fourth day after the operation, localized peritonitis occurred, but yielded kindly to salines and the ice coil locally. On the morning of the tenth day a slight show was noticed, and at noon the patient aborted, the fetus being about four months. There was no flooding. Her condition rapidly became more serious, and she died from exhaustion May 24th, 1888.

Autopsy three hours after death. Uterus implicated by large
VANDER VEER: Concealed Pregnancy. 1125

fibro-myxoma, partially subserous in character; was studded with hard, nodular excrescences, thirteen in number, which completely surrounded the uterus. The great mass of the uterine tumor lay to the left of the uterus. There were extensive adhesions of tumor to the intestines and bladder. Cavity of uterus was four inches in depth and contained small portions of the placenta. There was no fluid in abdominal cavity, and but slight evidence of recent peritonitis. No further examination was made.

In addition to my personal cases, I shall take the liberty of presenting abstracts of the histories of cases which illustrate the conditions that are properly open for discussion.


Abstract.—A. C. F., aged 28, colored, married, and has one child, now ten years old. General health apparently good. Four years ago she first noticed a fullness of the abdomen, more to the right than the left side. When I first saw her (May 10th) she was very much distended. The prominence was central and very high up. Tumor movable, hard, and nodular. Fluctuation could not be elicited; menstruation normal in every particular. She positively affirmed that she never missed a period save when pregnant the first time. There was no vaginal tinting; the os uteri was closed, and the cervix as hard as cartilage. The sound was introduced nearly four inches into the uterus, and she did not present a single symptom of pregnancy. The tumor had become so large that it produced severe dragging, dyspnea, and discomfort. An exploratory incision disclosed a very large subperitoneal fibroid springing from the fundus by a broad pedicle. The uterus was occupied by twenty-two other fibroids varying in size from an orange to a cherry. A supravaginal hysterectomy was done, and the uterine cavity contained a macerated fetus of two and a half or three months. The patient was doing well June 1st. A recovery.


Abstract.—Madame B., aged 37, a widow for several years, always sterile. For several years had suffered from severe menorrhagia. Recently tumor had grown very rapidly and flooding had been very exhausting. M. Péan diagnosed fibro-myxomatous and proceeded to their removal, which he did by enucleation. The operation was followed by abortion on the second day. Gestation had advanced between four and five months. Patient recovered.

Case V.—Abdominal Section for Fibro-Myxoma. Operator,

1 The abstract of this case is made up from notes kindly furnished by Dr. Kollock, who has frankly stated the facts in this and another case, and generously offered them for publication.
Professor Freund, Strassburg. Contributed by Dr. J. W. Poucher. Poughkeepsie, N. Y.

Abstract.—Patient aged 50, married many years, always sterile. Fibroid had existed for some time longer than discovered pregnancy. When the uterus was opened, to his own and everybody’s surprise Freund brought out a buxom fetus, which also seemed very much surprised, for it immediately began to cry. It proved to be at least eight months old and all right. There was also a large fibroid which was very vascular. A supravaginal hysterectomy was done to complete the operation, and the result is unknown to me. This case is now reported for the first time.

Case VI.—Abdominal Section, Exploratory. Operator, Robert Barnes, M.D. Operation January 7th, 1877.

Abstract.—Mrs. C.: had been married several years; no children or abortions. Always menstruated punctually until three months ago, without excess, since which menstruation has been suspended, and pelvic pain has arisen, with dysuria, retention, and intrapelvic pain accompanied by vomiting. A fortnight ago, swelling in the hypogastrium from pelvis upward became marked, and the abdomen was found partly filled by a tumor taken to be a fibroid. January 4th, 1877, Dr. Barnes saw the case and found an enlargement of abdomen extending to a little above umbilicus on the right side, and not quite so high on the left. It was tender and lumpy, and the os uteri was felt high up above the upper edge of the symphysis pubis, small and compressed transversely. Sound passed two and one-half inches. Behind tract of sound, and apparently behind tract of uterins, another dense tumor could be felt. By rectum the mass could be felt rounded, filling the sacral hollow. Two days later, Drs. Baber, Braxton Hicks, and Barnes met in consultation and discussed the probabilities of the case. Under ether, an attempt was made to dislodge the tumor from the pelvis, which was only partially successful. They thought the probability preponderated in favor of an ovarian tumor partially solid. It seemed impossible that fibroids could be developed so rapidly. The condition of pain, retention, vomiting, and commencement of strangulation of impacted mass, made it imperative to give quick relief. Gastrostomy was decided upon with this end in view. Abdominal section revealed general peritonitis. On summit and sides of tumor were numerous nodular projections. Trocar plunged in and a little blood and foul air were obtained. Tumor and uterins were removed by supravaginal amputation. Uterine cavity contained three months’ fetus. Death from shock.

Case VII.—Abdominal Section for Fibro-Myxoma. Operator, Dr. Alex. Patterson. Operation December 11th, 1884.

Abstract.—Mrs. M., aged 36, married nine years. Menstruation always regular until last few months. Now it was entirely suppressed. For years menstruation had been profuse. August, 1884, the patient accidentally discovered tumor in left side of
abdomen about the size of a small plum. In September, tumor began to increase rapidly and to be accompanied with great pain. September 23d, a specially qualified consultant was called; his diagnosis was hematoccele in Douglas' pouch, and he advised against operative procedures. Matters becoming more serious, an eminent surgeon was called, who gave his opinion in very decided terms that the tumor was uterine fibroid and should be left alone, as an operative procedure would only hasten a fatal result. I was called December 21st, and thought the case to be one of fibroid that could be removed and the patient recover. In the left iliac fossa, close to pelvic brim, the tumor was most readily encountered. It was traceable across lower abdomen, getting lower to the brim on the right side. The growth was firm, elastic, nodular, and painless on pressure. Per vaginam, pelvis filled by small mass and the vagina was roofed across. Uterus completely fixed. Wishing to be sustained, I called a medical friend well versed in such matters, and after a prolonged examination he decided the case to be one of ovarian disease, probably double, and that it should be removed. An endeavor was made to introduce the uterine sound, but it could only be made to pass one and one-half inches. Abdominal section revealed multiple fibro-myxoma. A supravaginal hysterectomy was done, and uterine cavity contained a four months' fetus. Patient recovered without a bad symptom.

Case VIII.—Abdominal Section. Multiple Uterine Fibroid. Operator, Dr. Geo. Granville Bantock. Operation April, 1884. Abstract.—When patient first came under his notice two years prior to operation, the tumor was of small size, but menstruation was excessive. Whether as a result of medical treatment or otherwise, it was a singular fact that the menorrhagia diminished until the flow became quite moderate and even scanty, while the tumor kept on growing. For over three months before operation, menstruation had been absent.

As the patient was single, his suspicions were not aroused, and it was impossible to examine the uterine body, for the cervix was so drawn up that the os could only be touched with the tip of the finger, while the uterus was covered in front by one of the tumors. After separating omental adhesions to the larger of the two tumors, which had undergone cystiform degeneration, and turning out the whole mass, it was easy to secure a very good pedicle at the level of the internal os. He confessed he was rather glad he had not diagnosed the pregnancy, for had he done so he probably would not have performed the operation. He was happy to say that when last seen patient was in excellent health, and even contemplating marriage. Uterus contained a three months' fetus.

Case IX.—Abdominal Section. Supravaginal Amputation of Pregnant Uterus complicating a Multilocular Fibroid Tumor. Operator, Dr. James H. Etheridge. Abstract.—Mrs. A. B., aged 34, no children. First experienced
uterine symptoms four years ago. Two years later suffered from retroversion and impaction of the uterus, at which time a sub-peritoneal myoma was diagnosed. In May, 1886, four years since first symptoms, patient suffered from distressing nausea. Mammary changes supervened. In the ensuing three months the tumor grew rapidly, and Dr. Knox diagnosed pregnancy. At expiration of three months he decided to produce abortion. August 1st, 1886, sound was introduced into uterus four inches. Its withdrawal was followed by a small amount of blood, the nausea and vomiting ceased, and the mammary symptoms disappeared. Nothing further followed indicating the previous existence of pregnancy or abortion, and the conclusion was reached that conception had not occurred. The rapid encroachment on the abdominal organs, her diminishing strength, emaciation, and suffering, were progressively killing her. From external examination it was found that the tumor extended from right iliac fossa across the abdominal cavity in a straight line to the spleen. Its length was apparently double or treble its width. It was freely movable, free from adhesions, and solid. It presented great tenderness in right iliac fossa. Per vaginam the cervix uteri was found very high up in the left iliac fossa, and the fundus uteri was apparently thrust into the right iliac fossa. The whole tumor moved with the uterus. A very slight resiliency offered to conjoined manipulation led me to think that I had to do with a fibro-cystic tumor of the uterus. The sound entered the uterus four inches and seemed to pass toward umbilicus. The tumor was removed by supravaginal hysterectomy, and the patient died from septicemia. Examination of the tumor showed it to be fibro-myxomatous, and that the uterine cavity contained a three months' fetus lying in its unruptured membranes. Fetus was evidently alive at time of operation. The cervical canal was five and one-half inches long. Weight of tumor, ten pounds.


Abstract.—Mrs. C. C., aged 35, married two and one-half years. Family history good, previous health good. Six months after marriage she suffered from severe pain in the left iliac region, but continued her service. Later she began to enlarge and was examined repeatedly, but no signs of pregnancy ever elicited save amenorrhea. Never suffered from menstrual disorders. Tumor grew very rapidly and was irregular. Cervix was very high, firm, and near the sacrum. A diagnosis of malignant tumor of the uterus was made and palliative treatment instituted, but the patient died in two months. Post-mortem examination revealed multiple fibro-myxoma of the uterus and pregnancy. The period of gestation at death, six months.
VANDER VEER: Concealed Pregnancy. 1129

INDICATIONS FOR OPERATION.

A study of the clinical histories, especially in the cases of fibro-myxoma, shows that there was an immediate demand for operative procedure. Robert Barnes so tersely states the indications for abdominal section in his case (see Case VI.) that the repetition is useful: "The condition of pain, retention, vomiting, and commencing strangulation of the impacted mass made it imperative to give quick relief." To these symptoms exploratory laparotomy reveals that other often fatal condition—peritonitis. Alex. Patterson's case was equally unpromising, but happier in its results. Pain has been a prominent symptom in nearly all of the cases, often requiring the continuous use of anodynes. Palpation gave so much distress that, if done at all, it was imperfect and unsatisfactory. The rapid growth of the tumor has led to dyspnea, dysuria, and constipation, or to more active obstruction of the bowel, edema of the extremities, vomiting, emaciation, and peritonitis. Universal experience has shown that temporizing with cases wherein there are symptoms such as have been related has been uniformly disastrous. The case of J. Lucas Worship, Esq., has been introduced in this article for the purpose of illustrating this point. Teachers have been often too prone to advise waiting for extended observation. It seems to me that Mr. Lawson Tait has carefully and clearly enunciated that which is the best practice, in one of his numerous controversial papers (American Journal of Obstetrics, vol. xxii., p. 295), in which he says: "When the conditions within the abdomen are such that the life of the patient is evidently threatened, or the conditions continue in such a direction as to defy ordinary treatment and make life unendurable, do not let any doubt as to the accuracy of the diagnosis stand in the way of an exploratory incision, for this will at once make a complete diagnosis possible and open a road for successful treatment."

DIAGNOSIS.

The influence of gestation upon fibro-myxoma demands our consideration. The consistence of the tumor has been variously described as firm, doughy, soft, fluctuant—indeed, the sense of fluctuation has led the surgeon more than once to puncture the tumor with the aspirator needle or trocar. There can be no reasonable doubt that the different degrees of density are de-
ependent upon three conditions, viz., the structure of the tumor, its situation, and certain degenerative changes. The growths made up largely of muscular elements are more readily affected by the increased intrapelvic circulation of pregnancy, become more edematous and grow more rapidly, than those in which fibrous elements preponderate. Intramural fibro-myxomata, from their more intimate connection with the uterine walls, exhibit more active metamorphoses than do subperitoneal ones with slender pedicles. Pregnancy may also bring about necrotic degeneration and softening from pressure. If the foregoing facts are sufficiently established, then sudden enlargement and softening of pre-existing fibro-myxoma is a valuable sign of pregnancy. But this rapid increase in volume has not been uniformly observed (Gusserow, "Cycl. O. G..") vol. ix., p. 300). Again, as this rapid growth is most frequently dependent upon increased vascularity, causes other than pregnancy may operate similarly. Tumors largely myxomatous often markedly enlarge during menstruation and grow with great rapidity. On the other hand, fibro-myxomata in which sarcomatous degeneration takes place, or primary sarcoma of the giant or small round-cell type, are very rapid in their development, and are attended with great pain. In the case of Worship (l. c.), the diagnosis of malignant disease of the uterus was made. A priori, sudden increase and softening in a fibro-myxoma, to be of value as a presumptive sign of pregnancy, is dependent upon the exclusion of primary sarcoma or sarcomatous degeneration, and the soft and rapid-growing variety of fibro-myxoma.

For these reasons, in those cases where the diagnosis of pregnancy has been made upon the observance of rapid increase in size and softening in the fibro-myxoma, it is to my mind, although quite enough to arouse suspicion, based upon insufficient evidence. However, in connection with amenorrhea and mammary changes it is of great value, and yet has not been referred to with uniformity by writers. Ectopic gestation may occur in these cases, giving rise to the same changes in the tumor (see cases of Smutz and Bayle).

Amenorrhea is a valuable symptom when it occurs. It will be noted that it occurred in eleven of the twenty-six cases the study of which forms the greater portion of this paper. Yet there are circumstances which may materially modify its value as a symptom. For example, in my first case the patient gave a his-
tory of having suffered for extended periods from amenorrhea. Again, in the case reported by Bantock the menstrual flow had been growing more scanty for a long period, and finally ceased. The menstruation may continue, or an irregular flow may exist during pregnancy (Mundé, Bayle, Gusserow, and others). Abortion in cases of fibro-myxoma is most frequently induced by flooding. The sympathetic mammary disturbances which are observed in pregnancy were noted in four of the cases, but they are of themselves of no great value. In my second case they were present, but not more prominent than at any menstrual period. "The gastric, mammary, and nervous symptoms of pregnancy sometimes result from ovarian disease" (Thomas). Abdominal palpation, especially in the earlier months, can add but little in the elucidation of the problem, and often has misled surgeons of great ability. Auscultation may reveal a bruit, but who will say that it is the bruit of fibroid or of pregnancy? Later both palpation and auscultation are invaluable, revealing ballottement, quickening, and the fetal heart sounds. The sign of pregnancy to which in later years Braxton Hicks has called particular attention, the alternating contraction and relaxation of the uterus, may be entirely obscured by the fibro-myxoma. English operators have laid great stress upon this sign.

Per Vaginam.—The vaginal venous injection observed in pregnancy does not differ materially from that occurring with the large fibro-myxoma in which a concealed pregnancy may occur. In none of the cases here reported were there such changes in the cervix uteri as are regarded characteristic of pregnancy. The cervix has been described as firm, compressed transversely, elongated, and has been located high up behind the symphysis pubis, or back in the hollow of the sacrum, or operators have been unable to palpate it at all. Because of these distortions, Hegar's sign of early pregnancy has been of no assistance. The use of the uterine sound in both of my cases, and in nearly all of the cases detailed in Table I., has not aided in the diagnosis. So complete has been its failure that any facts determined by it should not enter into one's judgment of the case, and I am in great doubt if it should be used at all. Besides, the great difficulty of its introduction and the danger of perforating the uterine walls should be remembered. In sixteen cases, there were either no signs stated or an emphatic statement made that there were no signs of pregnancy present.
Granted that in a given case of fibro-myxoma the diagnosis of pregnancy is made, how does the operator know that the gestation is not ectopic, or that it is not located in a rudimentary horn of a bicornated uterus? Experience has shown that these errors have occurred, and, if diagnosis is to be exact, differentiation is demanded. But the possibility of the diagnosis of simple ectopic gestation before rupture of the tubal sac and hemorrhage is at least vigorously assailed not only abroad but in America. Manifestly this is no time for entering into the discussion of the merits of this last important question. I would not have it understood that, in my opinion, the diagnosis of early pregnancy as a complication of fibro-myxoma—i.e., before the fourth month—is impossible in all cases, but that the diagnosis is, at the best, a matter of presumption, and that it is often impossible when immediate operative interference is demanded.

With no desire to be critical, I must say that many of our textbooks give very meagre accounts of pregnancy as occurring with fibroids. Barnes, after writing at length, came to the conclusion "that the chief characteristic in the complication was the want of uniformity in the uterus." His statements regarding the diagnosis of pregnancy with ovarian cyst are equally as clear. Thomas makes no mention of the complication; and Byford, after referring to mistakes made by himself, Sims, Wells, and others, says: "A careful examination of the cervix uteri, the abdomen, and the breasts for evidences of pregnancy will seldom fail to make the diagnosis of this complication clear." Hart and Barbour, Emmet, Hewitt, Simpson, Seanzoni, Courty, and many obstetric authors either do not mention the complication or advise waiting. Prof. Skene relates the histories of two cases wherein pregnancy occurs with fibroid, and in which the diagnosis was not made until months later. Karl Schroeder expresses the opinion "that it may be exceedingly difficult to differentiate between simple fibroids and fibroids complicated by pregnancy." Hirst ("Am. Sys. Obst.") says: "In rapid-growing, soft myxoma, the diagnosis may be exceedingly difficult or impossible." Gusserow ("Cycl. O. G.," vol. ix.) rather neglects early pregnancy, but attributes the error in the later stages to carelessness.

The editor of Spiegelberg's "Midwifery," 1887, makes a statement "that as a rule, however, there is very great difficulty, especially in the cases of intramural growth, since, at any rate during the first four or five
months, they often conceal the pregnancy. The most careful examination may not elucidate the case." After the fourth or fifth month, the error has occurred but three times. In Karström's case, ascites as a complication obscured the diagnosis. In the case of Prof. Freund, of Strassburg, the patient, fifty years old, always sterile, presented no symptoms that led even to a suspicion of pregnancy. It is only fair to Dr. Barnes to say that he suspected the possibility of pregnancy, but from the history of the case there seemed no ground for the suspicion, and it was not confirmed in consultation.

There is no error in diagnosis which brings the physician in so much undeserved disrepute in the popular mind as a failure to recognize the presence or absence of pregnancy. Yet I am familiar with several cases where either this error has led to abdominal section or all the preparations for one have been made. Recently a member of the British Gynecological Society amused a meeting exceedingly by relating a case wherein a specially qualified operator journeyed many miles to a case. After his arrival, late in the afternoon, he examined the case carefully, decided the growth to be fibroid and that it should be removed. Being much fatigued by his journey, he decided to remain and perform the operation the following morning. Early the next morning he was gravely informed that his services would not be required, as the patient had, during the night, given birth to a fine baby and the tumor had disappeared. Nor does this experience stand alone. Others have brought cases to the operating table with a dilating os uteri. Of the nine cases of simple pregnancy found in the table, five of them occurred early in the history of abdominal surgery, when methods of differential diagnosis were not as well taught and practised as now. I want to call attention particularly to the case of Dr. Wm. Varian. From the history of the case, I have no doubt that many, if not all, of us would have been led into the same disagreeable error. Dr. Prince has a similar experience. The frequency of the complication of undiagnosticated pregnancy in single women will be noted in the tables. I am reminded of a remark attributed to the late Prof. MacNaughton, in answer to the inquiries of an anxious mother who had called him very late one night to see her daughter, who had just returned from a ball in a blissful state of intoxication. "Ah, madam, the best slip, the most cautious fall! Your daughter will be better in
the morning." It is well to have the quaint saying of the good old Scotchman always in mind when single women present themselves with abdominal tumors, and we should never be in a hurry to operate. The history obtained from the patient, and often from her relatives as well, will be full of deceit at best, and may be, as in Prince's case, made to fit minutely a variety of actual disease.

Such cases should be subjected to the most painstaking physical examination, nor should any protestations upon the part of the patient deter the surgeon from making a complete examination of the vagina and breasts as well as of the abdomen. His judgment must be based upon the physical examination entirely.

Pregnancy as a complication of ovarian cyst is met with considerable frequency, and is not always diagnosticated before operation. We can hardly enter into the discussion of the symptoms, for in twenty-eight cases that go to make up the table none are stated save in one case, amenorrhea. In some of the cases, the operators state there were absolutely no signs of pregnancy. The period of gestation in twenty-one cases was before the fourth month. Three others occurred in single women, and in two gestation was about the fifth month. The presumptive signs of pregnancy occurring with fibro-myxoma are, in cases of ovarian cyst, obscured or modified, yet to some of them greater diagnostic value can be attached. Close attention to menstrual disorders will occasionally determine the fact that the patient's menstruation has been perfectly normal until a recent period, when it ceased altogether. This is a sufficient ground for suspicion. The examination of the breasts should be a matter of routine, yet the evidence obtained will be of no great value. The vaginal examination here will be of greater value than with fibro-myxoma. If the uterus can be palpated and found regularly enlarged, yet independent of the tumor; if the cervix is softened and os patulous; if the vaginal walls are tinged—then there exist strong presumptive signs of pregnancy. Hegar's sign in such cases, if demonstrable, makes the diagnosis absolute. Palpation of the abdomen in the earlier months, when the error occurs, is of no value. When the uterus rises into the abdomen, then palpation and auscultation are, with ballottement and the sign of Braxton Hicks, sufficient, as a rule, to make the diagnosis. But the pregnant uterus may be obscured anteriorly by the large cyst;
it may be retroverted and impacted in the pelvis, or drawn up and dislocated laterally by the rapidly increasing cyst, so that it will be impossible to explore it satisfactorily; then the diagnosis is impossible. When the slightest suspicion of pregnancy exists in connection with ovarian cyst, the use of the sound is absolutely unjustifiable, although it seems, in the cases where it was used, that it only confirmed the error in diagnosis. Accumulated experience has shown conclusively that abdominal section for ovarian cyst in the pregnant woman should be done generally, and without the previous induction of abortion.

CONCLUSIONS.

I. Finally, from the study of the sixty-eight cases, I am convinced that the errors of diagnosis are dependent, in a large proportion of the cases, upon conditions which make it absolutely impossible, when these conditions recur in other cases, to avoid the same diagnostic conclusions.

II. That it is the duty of every operator, before making an abdominal incision, to secure, either himself or by a specially qualified assistant, a fully classified, written statement of the facts which go to make up the clinical history of the case, together with the results of the physical exploration made by the operator and his consultants, using a formal blank statement (that of Sir Spencer Wells, for example), so that no facts may be omitted; that no part of this duty should be delegated, except under supervision, to internes of hospitals.

III. That the probable diagnosis should be based upon the physical signs contained in the notes, corroborated, with few exceptions (unmarried and ignorant patients), by the rational signs contained in the clinical history, and not by simple abdominal palpation and "the dim light of a pelvic examination."

IV. That whenever the slightest probability of pregnancy exists, it should be fully explained to the patient and to her friends.

V. That the necessity for operative relief, and the consequence of delay or neglect, should be carefully stated to the parties interested before obtaining their formal consent to the operation.

VI. That it is the duty of every operator to report fully all such cases, that the methods of diagnosis may be improved if possible.

VII. That it is the duty of the profession at large to maintain that pregnancy may be absolutely concealed, especially prior to the fourth or fifth month, by other intra-abdominal conditions.
TABLE I.

ABDOMINAL SECTION COMPLICATED BY PREGNANCY NOT DIAGNOSTICATED BEFORE OPERATION.

<table>
<thead>
<tr>
<th>Case</th>
<th>Operator</th>
<th>Reported.</th>
<th>Age</th>
<th>Civil condition</th>
<th>Parity</th>
<th>Condition diagnosed before operation</th>
<th>Condition found at operation</th>
<th>Period of gestation</th>
<th>Result</th>
<th>Symptoms, if any, of pregnancy prior to operation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Prof. Freund</td>
<td>Personal letter</td>
<td>50</td>
<td>M.</td>
<td>0</td>
<td>Do</td>
<td>Do</td>
<td>8th mo.</td>
<td>R.</td>
<td>None.........</td>
<td>Porro's operation.</td>
</tr>
<tr>
<td>6</td>
<td>Hofmeier</td>
<td>Die Myomotome, p. 76. etc.</td>
<td>41</td>
<td>M.</td>
<td>0</td>
<td>Do</td>
<td>Do</td>
<td>3d mo.</td>
<td>R.</td>
<td>Pregnancy not absolutely excluded. Amenorrhea</td>
<td>Porro's operation.</td>
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<tr>
<td>Karström</td>
<td>Hygieia for April, 1887.</td>
<td>M. 1</td>
<td>Exploratory... Do.</td>
<td>2d mo. R. Do. Porro's operation. Disintegration of tumor begun; fetus macerated.</td>
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</tr>
<tr>
<td>Alex. Patterson</td>
<td>Glas. Med. J. April, 1885.</td>
<td>M. 0</td>
<td>Do.</td>
<td>3d mo. R. Do. Porro's operation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R. Barnes</td>
<td>St. Geo's Hospital Report 1874-76, vol. viii., 91-95.</td>
<td>M. 0</td>
<td>Exploratory... Do.</td>
<td>4th mo. R. Do. Porro's operation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wesseige</td>
<td>Bull. de l'Acad. Royal de Belgique. 11, Cér. 3, No. 4.</td>
<td>M. 1 (ab.)</td>
<td>Fibro-myxoma of uterus.</td>
<td>5th mo. None... Porro's operation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. Henry</td>
<td>Gynecol. Jour. 1871, vol. ix., p. 331.</td>
<td>0</td>
<td>Fibro-myxoma of uterus.</td>
<td>4th mo. D. None... Patient died two hours after operation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof. Wyeth</td>
<td>Personal letter</td>
<td>Do.</td>
<td>Do. 2d mo. D. None... Died from intraperitoneal hemorrhage.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bayle</td>
<td>Annales de Soc. de Méd. St. Etienne.</td>
<td>Do.</td>
<td>Do.</td>
<td>D. None... Patient flooded very severely.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case</td>
<td>Operator</td>
<td>Reported</td>
<td>Age</td>
<td>Civil condition</td>
<td>Parity</td>
<td>Condition diagnosed before operation</td>
<td>Condition found at operation</td>
<td>Period of gestation</td>
<td>Result</td>
<td>Symptoms, if any, of pregnancy prior to operation</td>
<td>Remarks</td>
</tr>
<tr>
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<td>------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>18 H. Tuholski</td>
<td>St. Louis Polyclinic</td>
<td>36</td>
<td>M.</td>
<td>0</td>
<td>Fibro-myxoma of uterus</td>
<td>Fibro-myxoma of uterus and pregnancy</td>
<td>3d mo.</td>
<td>R.</td>
<td>Amenorrhea; three months before; Fetus dead and macerated. Patient suffered from septicemia.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Vander Veer</td>
<td>Trans. N. Y. State Med. Society, '88.</td>
<td>34</td>
<td>M.</td>
<td>0</td>
<td>Exploratory; possibly fibroid, extra-uterine pregnancy.</td>
<td>Do.</td>
<td>4th mo.</td>
<td>R.</td>
<td>Do.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 Vander Veer</td>
<td>Not reported.</td>
<td>35</td>
<td>M.</td>
<td>0</td>
<td>Fibro-myxoma of uterus, probably exploratory.</td>
<td>Do.</td>
<td>4th mo.</td>
<td>D.</td>
<td>None</td>
<td>Patient aborted tenth day after operation, and died.</td>
<td></td>
</tr>
<tr>
<td>23 Thos. Keith.</td>
<td>Reported in discussion by Skene, Keith, Obstet. Trs. Edinburgh, 1884-85.</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>Do.</td>
<td>Do.</td>
<td>...</td>
<td>D.</td>
<td>None</td>
<td>By after-history learned fetus had been dead nearly four years.</td>
<td></td>
</tr>
<tr>
<td>24 Stoltz......</td>
<td>County, Diseases of Women.</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>Do.</td>
<td>Do.</td>
<td>...</td>
<td>D.</td>
<td>None stated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>H. A. Kelly, Personal communication.</td>
<td>...</td>
<td>...</td>
<td>Exploratory laparotomy</td>
<td>Large elongated ovary 2½ in. long, ¼ in. in width, and pregnancy.</td>
<td>2½ mo.</td>
<td>R.</td>
<td>None.</td>
<td>...</td>
<td>Safely delivered at term, by forceps, of living child.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>C. Kollock, Do.</td>
<td>28</td>
<td>M.</td>
<td>1</td>
<td>Do.</td>
<td>Fibro-myxoma and pregnancy suspected.</td>
<td>3d mo.</td>
<td>R.</td>
<td>None, absolutely.</td>
<td>Found macerated fetus, etc.</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Ogden, Canadian Practitioner, Apr., 1885. Letter Dr. A. H. Wright.</td>
<td>24</td>
<td>M.</td>
<td>0</td>
<td>Fibro-myxoma. Pregnancy suspected.</td>
<td>Do.</td>
<td>...</td>
<td>R.</td>
<td>None stated.</td>
<td>Abortion twelve days after operation. Tumor enucleated.</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE II.**

**PREGNANCY UNCOMPLICATED BY NEW GROWTHS.**

<p>| 1 | Olshausen, Personal communication, Dr. P. C. Bressler. | ... | ... | Ovarian cyst. | Pregnancy and hydramnion. | ... | R. | None stated. | ... | Mistake discovered after abdominal incision. |
| 3 | O. Prince, Personal communication. | ... | ... | Fibro-myxoma | Pregnancy... | ... | R. | Patient deceived operator by giving history of profuse menstruation and gradual increase for long period. |</p>
<table>
<thead>
<tr>
<th>Case</th>
<th>Operator</th>
<th>Reported</th>
<th>Age</th>
<th>Civil condition</th>
<th>Parity</th>
<th>Condition diagnosed before operation</th>
<th>Condition found at operation</th>
<th>Period of gestation</th>
<th>Result</th>
<th>Symptoms, if any, of pregnancy prior to operation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Josh. Bradford</td>
<td>Personal, Dr. W. W. Dawson</td>
<td></td>
<td></td>
<td></td>
<td>Ovarian cyst</td>
<td>Do.</td>
<td></td>
<td></td>
<td></td>
<td>Both operators now dead, and cases unpublished, hence particulars are unknown.</td>
</tr>
<tr>
<td>7</td>
<td>Henry Miller</td>
<td>Personal, Dr. D. W. Yandall</td>
<td></td>
<td></td>
<td></td>
<td>Do.</td>
<td>Do.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>George W. Bayliss</td>
<td>Personal</td>
<td></td>
<td></td>
<td></td>
<td>Do.</td>
<td>Do.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>E. E. Montgomery</td>
<td>Personal, from operator</td>
<td></td>
<td></td>
<td></td>
<td>Enlarged retroverted uterus, pregnancy suspected</td>
<td>Do.</td>
<td>2 1/2 mo.</td>
<td>R.</td>
<td>No symptoms, safely delivered at term.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Prof. Czerny, Strasbourg</td>
<td>Dr.</td>
<td></td>
<td></td>
<td></td>
<td>Ovarian cyst</td>
<td>Pregnant uterus and hydrammion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Dr. Kelly, Norfolk, Neb.</td>
<td>Personal, Dr. R. C. Moore</td>
<td></td>
<td></td>
<td></td>
<td>Do.</td>
<td>Pregnancy</td>
<td></td>
<td>D.</td>
<td>None stated...</td>
<td></td>
</tr>
</tbody>
</table>

Cases marked * added to table since writing paper.
<table>
<thead>
<tr>
<th>Case</th>
<th>Operator</th>
<th>Where reported</th>
<th>Condition diagnosed before operation</th>
<th>Condition found at operation</th>
<th>Period of gestation</th>
<th>Result</th>
<th>Symptoms, if any, of pregnancy</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T. Spencer Wells</td>
<td>Abdominal Tumors, Philadelphia, 1885</td>
<td>Ovarian cyst...</td>
<td>Ovarian cyst and pregnancy</td>
<td>...</td>
<td>R. None stated...</td>
<td>Pregnant uterus punctured by trocar. Cesarean section.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Wm. H. Byford</td>
<td>Byford, Dis. of Women, Med. and Surg., 4th ed., 753</td>
<td>Do.</td>
<td>Do.</td>
<td>7½ mo.</td>
<td>R. None stated...</td>
<td>Do.</td>
<td></td>
</tr>
<tr>
<td>Case</td>
<td>Operator</td>
<td>Where reported</td>
<td>Condition diagnosed before operation</td>
<td>Condition found at operation</td>
<td>Period of gestation</td>
<td>Result</td>
<td>Symptoms, if any, of pregnancy</td>
<td>Remarks</td>
</tr>
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<td>---------</td>
</tr>
<tr>
<td>7</td>
<td>Pollock</td>
<td>London Lancet, 1862, ii., 277.</td>
<td>Ovarian cyst.</td>
<td>Ovarian cyst and pregnancy.</td>
<td>2d mo.</td>
<td>R.</td>
<td>None stated.</td>
<td>The cyst was tapped four months before operation, and patient aborted at that time.</td>
</tr>
<tr>
<td>10</td>
<td>W. L. Atlee</td>
<td>Do.</td>
<td>Do.</td>
<td>Do.</td>
<td>2d mo.</td>
<td>R.</td>
<td>Do.</td>
<td>Patient went to term.</td>
</tr>
<tr>
<td>11</td>
<td>Do.</td>
<td>Do.</td>
<td>Do.</td>
<td>Do.</td>
<td>....</td>
<td>R.</td>
<td>Do.</td>
<td>Patient aborted second day after operation.</td>
</tr>
<tr>
<td>12</td>
<td>F. Bird</td>
<td>Do.</td>
<td>Do.</td>
<td>Do.</td>
<td>....</td>
<td>R.</td>
<td>There were absolutely no signs of pregnancy.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>G. Kimball</td>
<td>Personal communication.</td>
<td>Do.</td>
<td>Do.</td>
<td>2d mo.</td>
<td>D.</td>
<td>Pregnancy suspected, but possibility denied by the patient.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Do.</td>
<td>Do.</td>
<td>Do.</td>
<td>Do.</td>
<td>3d mo.</td>
<td>D.</td>
<td>Pregnancy suspected by attending phys., who explored uterus day before operation.</td>
<td>Died from peritonitis.</td>
</tr>
<tr>
<td>No.</td>
<td>Author</td>
<td>Source</td>
<td>Personal Communication</td>
<td>Ovarian Cyst</td>
<td>Ovarian Cyst and Pregnancy</td>
<td>Dermoid Cyst of Ovary and Pregnancy</td>
<td>Patient Aborted and Died</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
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<td>--------------------------</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Theodore A. Reaney</td>
<td>Do</td>
<td>Do</td>
<td>Do</td>
<td>2d mo</td>
<td>D</td>
<td>No symptoms</td>
<td>Patient aborted and died</td>
</tr>
<tr>
<td>17</td>
<td>J. C. Warren</td>
<td>Do</td>
<td>Do</td>
<td>Do</td>
<td>¾ mo</td>
<td>R</td>
<td>Do</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>A. Reeves Jackson</td>
<td>Do</td>
<td>Do</td>
<td>Do</td>
<td>2½ mo</td>
<td>R</td>
<td>Do</td>
<td>Patient safely delivered at term</td>
</tr>
<tr>
<td>19</td>
<td>Hunter Macguire</td>
<td>Do</td>
<td>Do</td>
<td>Do</td>
<td>3d mo</td>
<td>R</td>
<td>No symptoms noted or suspected</td>
<td>Patient safely delivered at term</td>
</tr>
<tr>
<td>20</td>
<td>S. D. Gross</td>
<td>Personal com. from Dr. J. M. Barton</td>
<td>Exploratory</td>
<td>Do</td>
<td>3d mo</td>
<td>R</td>
<td>None</td>
<td>Patient aborted same night</td>
</tr>
<tr>
<td>22</td>
<td>O. Prince</td>
<td>Do</td>
<td>Parovarian cyst</td>
<td>Do</td>
<td>3d mo</td>
<td>R</td>
<td>Do</td>
<td>Do</td>
</tr>
<tr>
<td>23</td>
<td>C. Kollock</td>
<td>Do</td>
<td>Parovarian cyst and pregnancy</td>
<td>Small parovarian cyst and pregnancy (twins)</td>
<td>4th mo</td>
<td>R</td>
<td>None</td>
<td>Safely delivered of twins.</td>
</tr>
<tr>
<td>24</td>
<td>Geo. E. Jarvis</td>
<td>Abstracts of records Hartford Gen'l Hospital</td>
<td>Ovarian cyst (?)</td>
<td>Ovarian cyst and pregnancy</td>
<td>5th mo</td>
<td>D</td>
<td>None stated</td>
<td>Patient aborted on third day and died</td>
</tr>
<tr>
<td>25</td>
<td>H. A. Kelly</td>
<td>Do</td>
<td>Exploratory</td>
<td>Large, elongated ovary 2½ in. long, ½ in. in width, and pregnancy</td>
<td>2½ mo</td>
<td>R</td>
<td>None</td>
<td>Safely delivered at term, by forceps, of living child</td>
</tr>
<tr>
<td>26</td>
<td>Dr. Cameron, St. John's Hos., Toronto, Can</td>
<td>Do</td>
<td>Hydro-salpinx</td>
<td>Hydro-salpinx and pregnancy</td>
<td>1½ mo</td>
<td>R</td>
<td>Do</td>
<td>Safely delivered at term</td>
</tr>
<tr>
<td>Case</td>
<td>Operator</td>
<td>Where reported</td>
<td>Condition diagnosed before operation</td>
<td>Condition found at operation</td>
<td>Period of gestation</td>
<td>Result</td>
<td>Symptoms, if any, of pregnancy</td>
<td>Remarks</td>
</tr>
<tr>
<td>------</td>
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<td>--------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>27</td>
<td>Dr. Cameron</td>
<td>Personal communication Dr. A. H. Wright</td>
<td>Ovarian cyst</td>
<td>Ovarian cyst and pregnancy</td>
<td>3d mo.</td>
<td>R.</td>
<td>None</td>
<td>Has now nearly reached full term.</td>
</tr>
<tr>
<td>28</td>
<td>Dr. Winckel</td>
<td>Personal communication from operator</td>
<td>Ovarian cyst, Multilocular</td>
<td>Do</td>
<td>5½ mo.</td>
<td>R.</td>
<td>Do</td>
<td>Patient safely delivered 3½ months after operation. When uterus was exposed child moved vigorously.</td>
</tr>
<tr>
<td>*29</td>
<td>T. Spencer</td>
<td>Abdominal Tumors, Phila., 1885, pp. 118, 119, and 120.</td>
<td>Ovarian cyst</td>
<td>Do</td>
<td>Viable</td>
<td>R.</td>
<td>None stated</td>
<td>This is Case 507 of first series. Labor soon after operation.</td>
</tr>
<tr>
<td>*30</td>
<td>Do</td>
<td>Do</td>
<td>Do</td>
<td>Do</td>
<td>3d mo.</td>
<td>R.</td>
<td>Do</td>
<td>Case 1138 of second series. Aborted second day after operation.</td>
</tr>
<tr>
<td>*31</td>
<td>Mr. Burd</td>
<td>Do</td>
<td>Do</td>
<td>Do</td>
<td>4th mo.</td>
<td>R.</td>
<td>Do</td>
<td>Aborted after operation.</td>
</tr>
<tr>
<td>*32</td>
<td>J. E. Sommers</td>
<td>Personal communication Dr. R. C. Moore</td>
<td>Do</td>
<td>Do</td>
<td>1½ mo.</td>
<td>R.</td>
<td>Do</td>
<td></td>
</tr>
<tr>
<td>*33</td>
<td>Jos. Price</td>
<td>Personal communication from operator</td>
<td>Do</td>
<td>Do</td>
<td>2d mo.</td>
<td>R.</td>
<td>None</td>
<td>Safely delivered at term.</td>
</tr>
<tr>
<td>*34</td>
<td>Do</td>
<td>Do</td>
<td>Exploratory... Strongly adherent left ovary and pregnancy</td>
<td>3d mo.</td>
<td>R.</td>
<td>Do</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cases marked * added to table since paper was written.
### TABLE IV.

**PREGNANCY IN BICORNATED UTERI, ETC.**

<table>
<thead>
<tr>
<th>Case</th>
<th>Operator</th>
<th>Reported</th>
<th>Age</th>
<th>Civil condition</th>
<th>Parity</th>
<th>Condition diagnosed before operation</th>
<th>Condition found at operation</th>
<th>Period of gestation</th>
<th>Result</th>
<th>Symptoms, if any, of pregnancy prior to operation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 J. E. Janvrin</td>
<td>....</td>
<td>....</td>
<td>Extra-uterine pregnancy</td>
<td>Do.</td>
<td>...</td>
<td>D.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 H. O. Marcy</td>
<td>Personal letter.</td>
<td>...</td>
<td>Exploratory</td>
<td>Interstitial pregnancy thought probable</td>
<td>3d mo.</td>
<td>R. No symptoms.</td>
<td>Aborted and recovery.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TAIT'S FLAP OPERATION FOR LACERATED PERINEUM.

BY

NEIL MACPHATTER, M.D.,

Denver, Colorado.

(With three woodcuts.)

Perhaps upon no one operation in the whole range of gynecology is there so much lack of unity as upon that for the restoration of a lacerated perineum. In looking through our literature, I find, though an event of frequent occurrence, the profession have never yet definitely settled upon the merits of any one method of repair. Many articles, some of an extraordinary length, have been written upon this subject recently, each writer advancing a peculiar idea of his own, and in nearly every instance recommending a new operation or a modification of a previous one. The almost inexhaustible length and number of papers that have been written upon this subject have only enshrouded it in further confusion and elevated the operation into a mysterious position, to my mind wholly unjustifiable. The results of this have been unfortunate and confusing, and have left the general profession with the idea that there must certainly be something mysterious about the repair of this tear.
I have long since thought it would be well, as far as possible, to unite upon one or two methods, and have them properly taught and practically demonstrated in our colleges. I believe the splitting operation, as advocated and performed by Mr. Lawson Tait, to be much superior and preferable to the various old denuding procedures. For simplicity, rapidity, and surety of union it is much in advance of the complicated and uncertain methods of denudation. I believe, when thoroughly understood, it is destined to be par excellence the operation for complete and incomplete laceration as well as for prolapsus.

I was exceedingly pleased to see in a recent issue of the American Journal of Obstetrics an article from Dr. Paul F. Mundé upon the merits of this operation. It was a relief to find that he had not followed the example of those who have been writing upon this subject of late, wherein they, almost without exception, begin by raking over again the anatomy of the perineum and theorize as to which muscle or set of muscles is to blame for the condition present; according to which, in the mind of the writer, is a new operation or a modification suggested and described.

No description of the flap-splitting method of Lawson Tait has yet appeared that can be accepted as accurate. That given by Dr. Paul F. Mundé, as well as that described by Sänger and others, differs in many important details from the simple method of Tait. It is to be hoped the profession will leave this operation as it stands in its beautiful simplicity, and that the craze for "modifications" will not be allowed to confuse the mind of the profession, which it is sure to do by introducing complications.

Having had innumerable opportunities of witnessing Mr. Tait perform this operation in all degrees of lacerations, and having frequently performed it myself, as it is the one I always adopt, I can vouch for its being an easy and certain method for the repair of these conditions. I have never seen any complications arise, nor have I known of a failure. The time required is usually not more than from four to six minutes, and I have seen it done in the marvellously short time of a minute and a half. The short time required to complete it I consider a great advantage; for many women will consent to have it performed when told that not longer than from five to eight minutes will
be required to finish it, whereas for a long operation they frequently hesitate and postpone.

All the descriptions that have yet been given fail to give the proper course and extent of the incisions. They are usually erroneously represented by the letter H or the figure □, which would give, in the former case, a quadrilateral raw surface when the flaps were split. When the tear does not extend through the sphincter ani, the incision should always begin at the bottom of the old tear, at its centre. The scissors is guided outwards and upwards with a gentle curve along the boundary line between the skin and the mucous membrane of the labium to the extent of an inch, or an inch and a half, as required. The other side is similarly split, so that the figure it represents will not be that of the capital letter H on a large scale, nor the figure □, but rather the flap of both sides forming the elliptical figure \( \cup \) (see 1-2, 1-2, Fig. 1). When, however, the sphincter is implicated, two small additional slits will be required. They are made by cutting down to each side of the sphincter muscle, beginning at the curve of the original incision. They need not be longer than a third of an inch; thus \( \cup \) (i.e., 3-4, 3-4, Fig. 2).

For no operation with which I am acquainted does the patient
require less preparation. She should have taken no food for a few hours before, and it is well to give her an enema half an hour or an hour before the operation. It is not necessary to shave the labia, nor is an assistant required except to give the anesthetic. The instruments required, and the only ones that should be used, are a scissors bent on the flat, a handled perineum needle, two pressure forceps, four or five silkworm-gut sutures, one sponge, and a basin of clean water. I will now proceed to give the details of the operation minutely, and I may say that it has been reviewed by Mr. Tait himself, and is approved by him as the most exact that has yet appeared, and as

![Diagram](attachment:Fig. 2.-Flap-splitting for complete laceration.)

the best illustration of his method short of an actual inspection of the proceedings.

The patient is put under the anesthetic and the operation performed in the bed. She is brought to its edge in the ordinary lithotomy position, her legs being well flexed and held apart by a Clover's crutch. The operation is begun by inserting the point of the scissors to the extent of a quarter to half an inch at the bottom of the old tear, which is usually represented by a white, hard, cicatrical band. He then cuts outwards and upwards along the boundary line between the vaginal mucous membrane and the skin of the labium of the left side to the extent of
an inch and a half or two inches, gently tapering in depth as he approaches the end of the incision (see 1 and 2, left side, Fig. 1). Beginning at the original starting point at the bottom, the opposite side is split up exactly the same length and depth (see 1 and 2, right side, Fig. 1), so that the two surfaces when brought into apposition will exactly fit each other. The split surface of one side is brought against that of the other by sutures, and the operation is complete. The suturing is done in the following manner: Begin near the top of the split on the left side by passing the point of the needle into the raw surface as close to the skin margin as possible. (The skin edge must not be included in the suture.) It is passed under and comes out in the raw surface close to the vaginal mucous membrane. The point of the needle is then passed on over to the split on the right side to a corresponding point. It is then entered again into the raw surface close to the vaginal mucous membrane, passed under the split, and comes out again in the raw surface close to the skin. It is then threaded with silkworm gut and the needle withdrawn, bringing back the suture. Three, four, or five similar sutures parallel with the first and about half an inch apart will be all that is necessary. They are introduced exactly as the first. When these are drawn tightly

Fig. 3—Introducing first suture in flap-splitting operation for lacerated perineum.
together and tied, they will bring the split surfaces into close apposition, and make as good and, in many instances, a better perineum than before the rupture.

When the rupture is into the sphincter ani, an additional split down to each side of that muscle is made, beginning each one in the original incision about a quarter of an inch from the spot where the point of the scissors was first inserted (see 3-4, 3-4, Fig. 2). These incisions are from a quarter to half an inch in length. This forms the rectal flap. One or two sutures are introduced as the others, which brings the raw surfaces into apposition and makes a complete union of the sphincter.

This operation is becoming widely used also in prolapsus, the only difference being that it may be necessary to make the flaps a little longer and deeper. The sutures should not include the skin, as the flaps cannot then be brought so closely together; and, besides, the skin, by turning in, interferes with union. Silk-worm gut is much preferable to silver or silk for sutures. They may be left in for two or three weeks if required. No application to the wound is necessary. The after-treatment consists of light diet for a week or ten days.

I have not heard of the parts again rupturing at subsequent confinements, which speaks well for the method.1

Steele Block.

A CASE OF TRIPLETS, HYDRAMNION, AND MONSTROSITY, WITH REMARKS CONCERNING THESE THREE ABNORMALITIES.2

BY

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(With two woodcuts.)

Before detailing the case which suggested this paper, it may be of interest to say something concerning the three abnormalities embraced in it, viz., triplets, hydramnion, and monstrosity. Although the course of labor in cases of plural births is often normal, they are usually classed as abnormal. Playfair,3 in

1 [The reader’s attention is called to Mr. Tait’s letter on this subject in the last (October) number of this Journal.—P. F. M.]
2 Read at the September meeting of the Rhode Island Medical Society, 1889.
PENNEY: A Case of Triplets.

giving his reasons for this, follows Arthur Mitchell in saying:

"Not only is there a direct increase of risk both to the mother and her offspring, but many abnormalities, such as idiocy, imbecility, and bodily deformity, occur with much greater frequency in twins than in single-born children." Twins occur about once in eighty labors; triplets once in seven thousand. The latter is, therefore, an occurrence sufficiently rare to make every case worth recording. Twins may originate in two ways:

First, by two separate ova which may be discharged from a single Graafian follicle, or each of them from separate follicles. If from separate follicles, both may originate in one ovary or one in each.

Second, two embryos may develop from a single ovum (in which case they are always of the same sex). When originating in the first manner, each embryo develops its own chorion and placenta, but usually the two placentae afterward become fused into one. In the second manner, only one chorion and placenta are developed. In cases of triplets, both of these modes of origin are usually combined, although triplets may originate from three separate ova.

*Hydramnion, hydrannios, or dropsy of the amnion* are synonymous terms used to signify an excess of the liquor amnii. The normal amount of amniotic fluid is usually estimated at two pints; an amount much in excess of this is considered pathological.

The *etiology* of hydramnion is yet uncertain. McClintock believes that the cause lies in the placenta, but is unwilling to carry his theory further than this. The old theory that syphilis is a cause has now few adherents. Playfair,\(^1\) on good grounds, believes that there is no connection between this condition and the health of the mother, since in cases of twin pregnancies one ovum only is usually affected. Hirst\(^2\) sums up the factors taking part in the etiology as due to either *oversecretion* or *deficient absorption* of the liquor amnii.

Oversecretion may be the result of the condition of the maternal blood which favors serous effusions generally, such as hydremia. It may be likewise due to an abnormal condition of the blood vessels of the cord and amnion, or to excessive secretion of the urinary organs or of the fetal skin. The influ-

\(^1\) Op. cit.

\(^2\) "Am. Syst. of Obstet.," vol. i., p. 225.
ence of the last two factors is demonstrated in cases of hydramnion in unioval twins, in one of which a more vigorous fetus is found, with hypertrophied heart and kidneys which increase the amount of urinary and dermal secretion. Another possible cause of oversecretion is amniotitis, or inflammation of the amnion, which, however, seems to be the least probable of all. Finally, the various causes mentioned may be combined, so that both mother and fetus may contribute to bring about this condition. That deficient absorption of the liquor amnii is sometimes a cause is extremely uncertain, although it is well known that the child swallows the liquor amnii, and the skin may absorb it to some extent. If normally reduced in this way at all, it must find its way out of the fetus through the maternal circulation.

The symptoms of hydramnion are excessive enlargement of the abdomen, often reaching such proportions as to cause dyspnea and displacements of the viscera; constipation; pains in the abdomen, pelvis, thighs, and back; edema of the lower extremities, etc.

The diagnosis is important and usually easy. Serious mistakes have, however, occurred. Dr. G. H. Buford reports a case in which there was enlargement as high as the ensiform cartilage at the fourth or fifth month, which was diagnosed as ovarian tumor and an incision made through the abdominal walls, when, the nature of the case having been discovered, the fetus was delivered per vias naturales and the mother recovered. McClintock calls attention to the large size and globular form of the uterus, absence of irregularities of contour, absence of fetal movements, and rapid increase in the size of the tumor. Ballocttement is usually free and distinct. In connection with the above symptoms is also to be considered the presence or absence of the symptoms and signs of pregnancy.

The prognosis to the child is unfavorable. Of McClintock's forty-three cases, twenty were still-born and eleven died a few days after birth. The dangers to the mother are complications due to great pressure and to post-partum hemorrhage. Dr. E. H. Trenholme records a case in which the distention caused rupture of the decidua and internal hemorrhage.

Treatment.—When the symptoms demand interference, Playfair 1 suggests—although he had not himself tried the plan—that a fine aspirating needle be introduced just within the cervix and a portion of the fluid withdrawn. Although I have been unable to find any mention of this suggestion having been adopted, it seems very feasible. By abdominal manipulation the child may be raised as far as possible toward the fundus and there retained until the needle, which may be curved and guarded by a cannula, is introduced through the os uteri. The child would probably not be touched, and even if it were, the wound by a small needle would not be likely to result in serious harm. Hirst, 2 while merely mentioning the proposition made by others to aspirate through the abdominal walls, does not favor the plan, since the fetus is usually deformed or diseased, and hence does not warrant the risk entailed upon the mother by tapping. He therefore recommends rupturing the membranes in the usual manner, and thus inducing labor. In attending a case of this kind, it would be well to use the hand as a plug after the membranes have been ruptured, and allow the waters to escape slowly, and also to be prepared for post-partum hemorrhage, which is likely to occur from the sudden emptying of the overdistended uteri. If, however, the operation of aspiration could be done through the cervix, as suggested, without risk, it would be manifestly better to allow pregnancy to continue to term.

Monstrosities are chiefly of interest to the obstetrician on account of the uncertainty of diagnosis which is caused in the mind of the examiner when he finds an object of this kind, the nature of which he is unable to make out; and from the obstruction offered to delivery, as in cases of double monsters. There is such a vast number of forms of monstrosity that no rules can be laid down for their diagnosis in utero, since rare, and sometimes previously unheard-of, forms may be met with.

The causes which lead to the production of such abnormal development of the embryo are yet more or less shrouded in mystery, although some recent experiments have thrown a good deal of light upon the subject. As to how far maternal impressions may influence this deviation of Nature from her usual path is an open question.

2 Loc. cit.
The experiments of W. Roux —which line of investigation, I believe, has also been carried on by some others—have established a theory supported by more tangible evidence than any yet offered. While the results of his experiments—which can hardly be more than mentioned here—do not show a possible cause for the production of all forms of monstrosity, they certainly prove a theory for the production of many forms, especially those in which some portion of the body is wanting.

In his experiments the fertilized ova of green frogs were used. When segmentation had taken place, one of the half cells was wounded with the heated point of a needle, after which the artificially procreated cell resulted in the production of a half embryo. His experiments were carried on to such an extent that he could produce at will various deformities by wounding various portions of the original segmentation cells. What is true of the ova of frogs will doubtless apply likewise to those of human beings. They show the extreme probability of deformities in the human embryo being caused by accidents and injuries occurring to it during the early stages of its development.

Case.—On the morning of August 3d, 1889, at 1:30 o'clock, I was called to attend Mrs. E. S., German, æt. 23, in her second confinement. I attended her in her first, in May, 1888, at which time she was delivered of a healthy child after a normal labor. She stated that she was between five and six months pregnant, but that her abdomen was larger than at term of her last pregnancy. Labor pains had commenced several hours before my arrival. On examination, a prominent, "glove-fingered" projection of the bag of waters was found presenting. The os uteri was well dilated, and while making the examination a sudden pain ruptured the membranes and the waters spurted with great force, being thrown several feet, and in such quantities as to delve the bed and run upon the floor. I should judge the amount was several gallons. On introducing the hand, a foot presentation was found and the child delivered. It soon manifested signs of life and lived about an hour. The hand was again introduced, and a smooth, oblong body was felt, the nature of which I could not make out. It was evidently not a head, nor could I make out any resemblance in it to any part of a child. The hand and arm, having now been scoured and disinfected, were introduced into the uterus, and I soon discovered that the queer object was a monster, as the imperfectly formed feet and legs

1 "Beiträge zur Entwickelungsmechanik des Embryo," Virchow's Archiv, Band exiv., Heft i., Seite 113.
could be made out. It was turned and delivered, and proved to be a hideous acephalic, acardine, athenacic monster. At most, these terms do not express its nature. Reintroducing the hand, a third fetus was found and delivered still-born. Like the first, its development was normal. The placenta was then removed and the patient left in good condition.

On examination, this monster was found to be void of a head, arms, thorax, stomach, liver, spleen, and all abdominal viscera except the lower part of the small intestine, the large intestine, kidneys, and bladder. These latter seemed to be normally developed. The five lumbar vertebrae were present, but none above these. The large, oblong mass occupying the position of the trunk was simply a watery mass of flesh. No resemblance to features could be made of the dermal covering except a small projection, about the length of a nose, immediately beneath which the umbilical cord was attached. In the photographs, taken a few days after it had been immersed in alcohol, there is a fancied resemblance to a face, caused by the wrinkling of the skin, but on close inspection this is shown to be only smooth skin like the rest of the covering. It is possible, however, that there is a thinning of the skin at the normal points for the development of the orbital and oral cavities, which resulted in the wrinkling at these points, giving it the appearance of a face. The feet are clubbed, one having only one toe, while the other has five. The sex is female, the vagina being quite well developed.
The placentae formed a single mass, doubtless by fusion, and I regret that it was destroyed before I thought to examine it.

The specimen is to me one of unusual interest on account of the complete lack of development above the lumbar vertebrae, differing in that respect from any I have found reported.

VAGINAL HYSTERECTOMY.

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Although vaginal hysterectomy has been much discussed of recent years, it is not a modern operation. The superficial observer would suppose that Freund, in 1878, was the first to direct attention to the advisability of the removal of the uterus for malignant disease, and that his work had led Czerny to the study of the subject; but closer investigation shows it of earlier origin. Andreas Cruce, in 1560, probably did the first operation for the removal of the uterus. A prize was offered in 1810 for the best essay upon the subject, which was awarded in 1814 to Gutberlet, who presented rules for the abdominal operation. Sauter (1822) removed the uterus by the vagina, and the operation was repeated by Langenbuch, Blundell, Recamier, and others, so that West was able to present a collection of twenty-five operations, of which twenty-two died.

Naturally this terrible mortality led to the discontinuance of the procedure. Czerny did the first vaginal hysterectomy according to modern methods, April 12th, 1879; but the difficulties of the procedure so impressed him that his next two operations were done by Freund's method, and it was not until the operation had been several times successfully done by others that he returned to the vaginal method. The eagerness with which this procedure has been accepted can be appreciated when it is known that the results of several hundred operations can be presented and individual operators present lists numbering sixty and eighty cases.

1 Read before the American Association of Obstetricians and Gynecologists.
As in all operations, it is important to determine the class of cases to the treatment of which it can be appropriately applied. A glance at the literature shows that this procedure has been practised for the cure of cancer of the cervix and body of the uterus, prolapsus in its varying degrees, retro-displacements, endometritis, and various nervous disorders.

The present paper will discuss its application to the treatment of cancer; at the same time we would deprecate the wide latitude that has been given it, believing, indeed, that the cases are rare in which it is even applicable to the treatment of prolapsus.

In malignant disease, it may be said to be indicated in every case in which the disease is yet confined to the uterus. Experience has shown that the radical cure is more certain when the body is the seat of the onset; so evident has this been that some have advised to confine the operation to disease of the internal os, giving the high amputation preference where the cervix only is involved. We cannot, however, but coincide with the opinion of Brennecke, that when any portion of the uterus is the seat of cancer, however slight, extirpation of the whole organ is indicated.

For the performance of the operation, the uterus should be freely movable; the disease should not have involved the vagina, the cellular tissue, the broad ligaments, or the pelvic lymphatic glands. The presence of any of these complications may be considered as to that degree contra-indicating it. It must be remembered, however, that the uterus may be fixed by a para-metric inflammation, and not from the extension of malignant disease. In every case, the affected organ should be carefully examined through the rectum, and when nodular masses can be felt in the broad ligaments the operation should be decided against.

The work of a number of operators demonstrates that the operation is not necessarily a dangerous one.

Maurice Hache (Rev. Sc. de Méd., Paris, xxix., 721-739) gives an analysis of 495 operations, in which the absolute mortality was 24.29 per cent.

When it is remembered that this is the work of a large number of operators, it will be seen that the mortality is but little if any greater than that of ovariotomy. In skilful hands, the mortality is less than 10 per cent. Staude has done 20 and
Brennecke 21 operations without a fatal case; Leopold 48 operations, with but 3 deaths. Munchmeyer has lately given the results of the obstetrical clinic at Dresden, where, from 1883 to 1889, 80 vaginal extirpations for carcinoma have been performed, with 4 deaths—a mortality of 5 per cent.

As operators better appreciate the importance of a proper selection of cases, the average mortality will be reduced to between 5 and 10 per cent. The first consideration in any operative procedure must be the danger, which, by the statistics just quoted, is seen in this to be comparatively slight. In addition to this, however, in order to justify ourselves in advising and urging an operation, it must be shown that it is effective in accomplishing the purpose for which it is suggested. If it does not give some hope of a radical cure, it is not wise or right to subject our patients to so difficult a procedure, and one not unattended with danger, however careful the operator.

Of the 495 cases analyzed by Häcle, 23 in each 100 succumbed to the operation; in 15 it returned in three months, in 13 in from three to six months, in 10 in from one to two years; 26 are still well at the end of two years.

Of 80 cases from the Dresden clinic, 4 died from the immediate effects of the operation, 10 from the recurrence of the disease, 4 from intercurrent affections.

In 41 cases operated upon during the last year there has been no recurrence. Of 17 women operated upon two years ago or over, none has had a recurrence. Among the last series are 3 who have had no recurrence for three years, 1 for four years, and 1 for five years. A case in which Freund removed the uterus by laparatomy, in 1878, for cancer of the neck, is still alive.

In comparison with other operations, that of Freund, with its 71 per cent mortality, is not to be considered.

Supravaginal amputation of the uterus for cancer of the body is attended with a mortality of 28.5 per cent, with ultimate recovery from disease of 14.4 per cent out of 100 operated upon.

Supravaginal amputation of the neck, according to Schroeder, has a mortality of 12 per cent, with the definite recovery of 10.56 per cent. Martin, however, asserts that the results in the hands of others have not been so favorable.

Pawlik (Wiener Klinik) gives the result of 136 amputations of the cervix with the galvanic cautery as follows: Mortality of
the operation, 7 per cent; definite recovery, 100 cases, 6.5 per cent.

Vaginal hysterectomy done under the later and more approved methods is scarcely more fatal than the partial operation, while the increased immunity against the return of the disease more than justifies the slightly increased risk.

The results of the operation do not compare unfavorably with extirpation of other organs for similar conditions. Thus Billroth fixed the mortality of extirpation of mammary glands, with the removal of the glands from the axilla, at 10 per cent. In Küstner's service, later, this was found to be 5.2 per cent.

In the face of such statistics, it seems difficult to find justification for the following conclusions from a paper by A. Reeves Jackson in 1883, and practically repeated in a paper before the International Medical Congress of 1887, in which he says:

"1. The diagnosis of uterine cancer cannot be determined sufficiently early to insure its complete removal by extirpation of the uterus.

"2. When the evidence can be established, there is no reasonable hope of effecting a radical cure, and other methods of treatment, far less dangerous than excision of the entire organ, are equally effectual in the amelioration of the suffering, and retard the progress of the disease and prolong life.

"3. Extirpation of the uteri is highly dangerous, and never lessens suffering except in those whom it kills, and does not give a reasonable promise of recovery, and should not be adopted in modern surgery."

The methods of operating are almost as many as the number of operators. The lithotomy position for the operation is the one observed by the majority of operators, although a few prefer the Sims. Some first open the anterior fornix of the vagina, and others the posterior, while Staude emphasizes the importance of suturing and separating the lateral tissues as the preliminary step. Then the uterus is anteverted, retroverted, split into two halves, or drawn down in situ. The broad ligaments have been ligated en masse or in sections. The wound is treated by suturing the peritoneal surfaces, the vaginal surfaces, or both; or the peritoneal and vaginal edges are brought together by sutures, thus covering the cellular tissue; or it is treated as an open wound, without the use of sutures. Some use drainage, others not; so also with the vaginal tampon. Three
important considerations to be kept in mind should be hemostasis, asepsis, and securing proper drainage. In the past, the control of hemorrhage has principally been accomplished by use of the ligature, either en masse or in sections. The objections that may be made to this method are: the difficulty of application in a narrow vagina, where the uterus is not readily displaced downward; slipping of ligatures, and hemorrhage from vessels which after retraction are difficult to reach; the length of time necessary for the introduction and tying of the ligatures; and the danger of including and compressing the ureters. The latter danger is much increased by the almost necessary eversion of the fundus uteri, either forward or backward. Some have applied forceps, cut away the uterus, and afterward ligated the stumps; others have found it necessary to leave the forceps in place to prevent the ligatures from slipping. The control of hemorrhage by forceps was suggested by Spencer Wells, Knowsley Thornton, and others, but Richelot was probably the first to rely upon them for this purpose.

They afford the following advantages: First, it is unnecessary to change the position of the uterus, and we thus save the danger of infecting the peritoneal cavity with the discharge from the diseased parts; second, there is more complete control of the broad ligaments, with the vessels which traverse them; third, there is less danger of including or injuring the ureters; fourth, it is unnecessary to provide other or special means for drainage; and fifth, they afford a great saving of time. By the old method of eversion of the uterus, ligation of the ligaments, suturing of the peritoneum, and drainage, the operation required from one and one-half hours to four hours for its completion; by the use of the clamps, the operation can be accomplished in from fifteen to thirty minutes.

The plan of procedure we would recommend would be: First, thorough washing and disinfection of the external genitalia, the vagina, and the uterus. Where there is much sloughing diseased tissue, previous curetting, application of iron, and packing the vagina with iodoform gauze should be practised. Second, with bladder and rectum empty, the patient is placed in the lithotomy position, the uterus exposed by perineal and side retractors, and seized with strong vulsellum forceps. The three- or four-pronged instruments are better for securing and retaining a hold on the diseased tissues. Third, after
thorough irrigation of the cavity, an incision with knife or scissors—preferably the former—is carried about the cervix, severing the vaginal mucus membrane. Care should be observed, anteriorly, as to the relation of the ureters and bladder. If vessels of any size are opened (which is rare), they may be secured by hemostatic forceps. Fourth, keeping close to the uterine, the tissues are separated, anteriorly and posteriorly, until the peritoneum is reached. In this process, the vulseum has the advantage over the suture sometimes used, in that with them the cervix can be elevated or depressed at will. Fifth, after renewed irrigation and sponging out of the vaginal canal, an opening is made first through the posterior cul-de-sac, the peritoneum torn through with the finger up to the broad ligaments, and a large sponge inserted, to which a ligature for its withdrawal is attached. The sponge serves a double purpose—retaining the intestines and preventing the soiling of the peritoneum. The opening is then made through the anterior peritoneum; this may be expedited by passing two fingers behind the uterus over the fundus, and pressing through the peritoneum, against them, a pair of forceps. The fold should then be torn down to the broad ligament upon either side. Sixth, hooking down the broad ligament with the finger or a blunt hook, a clamp or pair of forceps is applied to one and then the other close to the uterine, the latter cut away with the knife and withdrawn. Seventh, the cavity is carefully sponged, any bleeding points in the anterior or posterior walls secured with the forceps, and the sponge withdrawn from behind the uterine. Its withdrawal drags down the torn edges of the peritoneum, so that the surfaces lie in contact. Eighth, a tampon of iodoform gauze is placed in the vagina, which, with the forceps, acts as a drain. It should not be carried so high as to separate the peritoneal surfaces.

After-Treatment.—Judging from my own experience, the operation is usually followed by considerable shock, and temperature varying from 95° to 97°, most probably due to the sympathetic system from the constriction of the pelvic nerves in the broad ligaments. The clamps may be removed at the end of twenty-four to thirty hours. The gauze may be permitted to remain until the end of the third or fourth day. After its removal, the vagina should be irrigated two or three times daily with a two-per-cent carabolic acid solution, or a 1 to
5,000 solution of acid sublimate. After the fifth day, drainage may be promoted by permitting the patient to assume the semi-reclining position, and she may be allowed to sit out of bed at the end of ten days. In an ordinary case the temperature is but little higher than normal.

It has been my privilege to operate but three times; the histories of the cases will be briefly related.

Case I. (reported in the Philadelphia Med. Times, March 15th, 1889, p. 409).—Mrs. McC., æt. 40 years, mother of two children, was seen with Dr. Nock. She had suffered from hemorrhage, pain, and an offensive discharge for some months. Competent microscopists had pronounced the disease malignant. Uterus freely movable, and the disease confined to the cervix.

October 4th, 1888, assisted by Drs. Nock, West, and Rively, and Messrs. Croskey and Maier, the uterus was removed. Patient in lithotomy position; the vaginal tissue cut by the knife, and pushed off before and behind until the peritoneum was reached; the latter was opened posteriorly and a large sponge introduced. In the care to avoid injuring the bladder, the dissection was carried into the structure of the uterus, lengthening the operation. The dissection was completed by carrying two fingers behind the uterus and over the fundus. After opening and tearing off the anterior peritoneum, the organ was antverted, the broad ligaments seized with forceps, and the uterus cut away. The forceps sprung, permitting a portion of the ligaments to slip through. Some bleeding vessels were seized with forceps, so that the patient was returned to bed with eight forceps hanging from the vagina. An iodoform tampon was introduced. No sutures and no further drainage. Duration of operation, one and a half hours. The small forceps were removed at the end of thirty hours, and the large ones in sixty. The convalescence was very satisfactory and attended by no unpleasant symptoms; maximum temperature, 100°.

August 23d, 1889, I made a careful examination of this patient and found the tissues healthy, general condition good.

Case II.—Mrs. D., æt. 51 years, mother of several children, ceased to menstruate at 46. A year ago had a return of bloody discharge, which at times since has amounted to a hemorrhage. Pale, weak; cervix healthy; body of uterus enlarged and hard; the introduction of a small probe followed by bleeding. Scrapings obtained by curetting the cavity were negative. Age of patient, interval after menopause before the return of the flow, size and density of the uterus, with frequent lancinating pains, led to the diagnosis of probable carcinoma of the body.

February 14th, 1889, vaginal hysterectomy. After separation, front and back, uterus with difficulty antverted; clamps applied after some effort; uterus removed, and the parts carefully
sponged and tampon introduced. Clamps were removed at the end of seventy-two hours. Temperature immediately after the operation, 96.2°. Subsequent progress normal. The examination of the uterus did not confirm the diagnosis of malignant disease. Duration of the operation, thirty minutes.

Case III.—Mrs. S., age, 42 years, mother of two children; hemorrhage for years, considerable pain, and an offensive discharge. Uterus freely movable; no thickening of the broad ligaments, but the cervix was excavated and the vaginal portion destroyed. Cavity curetted and packed with iodoform gauze. July 5th, 1889, assisted by Dr. Wathen, of Louisville, Dr. Sangree, and Mr. Maier, extirpation was done. The operation was rendered difficult by the loss of the vaginal cervix, by a long, narrow vagina, and by inability to depress the uterus, which was hypertrophied. Was unable to pass the finger above the broad ligament, so burrowed through it below the ovarian artery, and applied a clamp on either side and cut away the portion of ligament compressed, thus enabling the uterus to be so depressed that the forceps could be applied above the ovaries, and those organs were removed with the uterus. Toilet of the vagina, and a gauze tampon introduced. Duration of operation, thirty-five minutes. Temperature, 95°; became normal in a few hours. Clamps were removed in twenty-eight hours. Subsequent progress excellent for one week. Played with dog on seventh day: the following day complained of stiffness of the jaws, which developed into severe tetanus, from which she died on the fourteenth day.

In the first two operations, the uterus was antverted; this in one was a difficult procedure, in both was unnecessary and added to the difficulty of the application of the clamps. The third case gave every promise of recovery for the first week; we can only ascribe her death to our imprudence in not guarding against the possible infection with the bacillus tetani from the dog.

Upon careful consideration of the operation of vaginal hysterectomy, we feel justified in arriving at the following conclusions:

1. That in all cases of cancer confined to the uterus, whether of the body or cervix, vaginal hysterectomy is the only justifiable operation.

2. The operation, when performed under proper precautions, is not necessarily attended with a greater mortality than is ovariotomy, and should be as urgently advised.

3. The operation should be done as early as the diagnosis can
be determined; and when the condition is one of doubt, the patient should be given the benefit of it and the organ removed.

4. The control of the hemorrhage by the forceps or clamp, and the open treatment of the wound, are the choice procedures.

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A NEW OBSTETRIC FORCEPS.

BY

HENRY D. FRY, M.D.,

Washington, D. C.

(With woodcut.)

This instrument is designed for application to the sides of the child's head before forward rotation of the occiput has taken place.

The difficulty of adapting the blades of the ordinary forceps to the biparietal diameter of the head, and in some cases the impossibility of so doing, led to its construction.

The idea of altering the classic forceps in such manner that the pelvic curve of the instrument would be placed on the flat surface instead of the edge, was entertained for some time before taking steps to have such an instrument constructed. During the winter of 1888-89, I consulted Messrs. Tiemann & Co., of New York, and, after experimenting and altering the model made, I finally adopted the design here presented.

It is practically a straight forceps with the pelvic curve on the flat, if I may be permitted to use such an inaccurate expression. Not having, at that time, referred to the literature of the subject, I was ignorant of what attempts had been made in this direction.

History of Antero-posterior Forceps.—In 1805, Uytterhooven, of Brussels, conceived the idea of having constructed a pair of obstetric forceps curved upon the flat, and having a long posterior and a short anterior blade. It was designed to seize the sides of the head when placed transversely at the superior strait. He introduced the anterior blade first, directing it along the antero-lateral wall of the pelvis and adjusting
it behind the pubic arch. The posterior blade was next introduced opposite a sacro-iliac symphysis.

The effort of Uytterhooven failed to meet approval and was forgotten.

The same fate awaited M. Bauners, of Lyons, who in 1849, and probably without knowledge of Uytterhooven's instrument, had a forceps made on the same principle.

Tarnier also mentions that Leake designed a forceps having attached to it a third blade which was intended for application in front.

This, as far as I was able to ascertain, is all that had been accomplished in the way of constructing an antero-posterior forceps.

Very recently, however, two other instruments of this class have come to notice.

Dr. Samuel Sloan, of Glasgow, presented to the Section of Obstetric Medicine, at the last annual meeting of the British Medical Association, a paper entitled "Antero-posterior Compression Forceps for Application at the Brim of Flat Pelves." The instrument which Dr. Sloan presented was a powerful compressor, and he devised it for use in cases of flat pelves when the only alternative was craniotomy. In the discussion which followed the reading of the above paper, Dr. W. L. Reed, of the same city, showed a pair of antero-posterior forceps which he stated he had been using with satisfactory results for seven or eight years.

The forceps which I desire to bring to the notice of the profession consists of a long posterior and a short anterior blade.

The posterior blade presents but one curve, a cephalic and a pelvic curve combined.

The anterior blade has its two curves in opposite directions.

1 "De l'application du forceps au déroit supérieur." Par le Dr. Gabriel Lepage. Paris, 1888.
The concave surface of the cephalic curve looks backwards, and that of the pelvic curve forwards.

The shape of the blades and the distance between them are the same as White's modification of Hodge. The shanks are long and placed laterally. Siebold's lock is employed. The handles are constructed of hard rubber.

The length of the instrument, measured in a straight line from the tip of the posterior blade to the end of the handle, is sixteen inches. From the same point to the lock is nine and one-half inches. The length of the handle is five inches.

The Use of Antero-posterior Forceps.—The purpose for which this variety of forceps is constructed has been explained already. Either it has failed to fulfil that purpose in the past, or the classic forceps has proved itself a more effective instrument in all cases.

The cause of failure of the instrument designed by Baumers was evidently its faulty construction. The representations of this forceps depict an exceedingly crude-looking instrument having an exaggerated pelvic curve. The concavity of the long posterior blade looks downwards and forwards, and overhangs the anterior blade, the concavity of which presents upwards and backwards.

In Witkowski's recent work will be found drawings of this forceps, as well as the comparatively superior instrument of Uytterhooven. In criticising these forceps, Poulet said: "No one claims to have ever succeeded in applying them to the living child; the instrument is therefore purely a theoretical one."

Was that distinguished accoucheur ignorant of what his compatriot, Cazeaux, had said of the forceps of Baumers? "To render the biparietal application possible," wrote the latter, "M. Baumers, of Lyons, has constructed a new forceps, which I have had occasion to try, and which appears to me to overcome the difficulty mentioned. I am convinced that the biparietal application of the blades, which is impossible with the ordinary forceps, is sometimes easy with that of M. Baumers, and I think it right to recommend their application in the transverse position."

1 See Charpentier, "Practical Treatise on Obstetrics."
2 "Histoire des Accouchements."
3 Lepage, ibid., p. 16.
The compression of the head with forceps strictly in the antero-posterior direction and coincident with that exercised by the pelvis, Poullet mentions as representing a useful idea if it can be accomplished practically.

The experiments made by Dr. Sloan with his instrument, and the statement of Dr. Reed that he had successfully employed such a forceps for a number of years, would indicate that it can be, and has been, accomplished.

As far as the instrument I offer to the profession is concerned, I can testify that it is applied to the sides of the head with as much ease as the ordinary forceps is inserted to the sides of the mother's pelvis, and with more facility than the latter is often adjusted to the bipartite diameter of the head when transverse or oblique.

When introducing the blades, I prefer to adjust the anterior first. The posterior blade should always be passed opposite one or the other sacro-iliac synchondrosis, and then, by a sliding movement, brought into position in front of the sacrum. Any attempt to insert this blade in position by passing it up directly in front of the sacrum might cause the tip to injure the child's head or the soft parts of the mother.

When the instrument is applied to the head in the pelvic cavity, with the occiput to the right or left, little effort is required to rotate the occiput forwards. In many cases, all that is necessary is to start rotation and it will be completed without further assistance.

When applied to the sides of the head, situated transversely at or above the superior strait, no effort should be made to cause forward rotation of the occiput until the head has been brought well down into the pelvic canal. It should be remembered that rotation is one of the terminal movements of the head—a movement that is often deferred until the influence of the perineal muscles is felt. Premature attempts to bring the occiput forwards will only result in harm.

The traction rod and compression screw are intended for use in high application of the forceps. After the blades have been adjusted, and the amount of compression necessary been secured by the screw, the hook at the end of the rod is fastened into the fenestrum on the anterior blade. Traction is then made with the right hand, while the left grasps the handle of the forceps merely to steady it.
After the head has been brought through the inlet, the tractor can be removed and the method of Pajot adopted by grasping the shank with one hand and the handle with the other.

In Memoriam.

Ellwood Wilson, M.D.

Dr. Wilson was born near Attleboro, Bucks Co., Pa., on February 4th, 1823. His early boyhood was passed on his father's farm, with only such educational advantages during that period as were furnished by a country school and the village library. He early developed a fondness for books, and read extensively such as were then attainable.

In 1841, he went to Philadelphia, and became an apprentice in the drug-store of Edward Parrish. He qualified as a pharmacist, and remained with Mr. Parrish until 1845. While thus occupied in the drug-store he studied medicine, and was graduated from the Jefferson Medical College in 1845. In the same year he was appointed visiting physician to the Philadelphia Dispensary, with which institution he retained his connection for several years. Professor Charles D. Meigs soon recognized the ability, skill, and energy of the young obstetrician, and secured his services as his assistant. Doubtless this early and intimate association with the learned and busy Professor of Obstetrics stimulated greatly Dr. Wilson's love of obstetrics, and added also largely to his practice and experience. Upon the retirement of Dr. Meigs, Dr. Wilson fell heir to much of his obstetrical work.

In 1846, Dr. Wilson became associated with Dr. Warrington in the Philadelphia Lying-in Charity, then known as the Obstetric Institute of Philadelphia. In this position he demonstrated his abilities as a teacher of obstetrics, and he had the largest private classes then in this country. Upon the retirement of Dr. Warrington, he succeeded him in that institution.

In 1862, the private practice of Dr. Wilson had become so large that he resigned his position in connection with the Lying-in Charity, whereupon the managers elected him president of the board. This position he held at the time of his death. Throughout almost every section of this country may be found
representatives of the large classes taught by Dr. Wilson. Among this large number may be mentioned Dr. Robert Battey, of Rome, Georgia.

Dr. Wilson was a gynecologist as well as obstetrician. His abilities in either capacity were of a high order. He was the first in this country to establish a dispensary for diseases of women, and the first to teach gynecology clinically. With Dr. Warrington he was the first to found and conduct a training school for nurses. He personally delivered more than 14,000 women, and saw all the difficult labors of more than 20,000 deliveries in connection with the Philadelphia Dispensary and the Lying-in Charity, besides being frequently in consultation in labor cases with other practitioners.

For a number of years prior to his death, he was a consulting physician to the Woman's Hospital, and was at all times favorable to the medical education of women. Dr. Wilson was also a consultant to the Preston Retreat, and one of the managers of the Jefferson Medical College. In the latter capacity he strongly favored the advanced curriculum now adopted by that college.

Dr. Wilson was so busy as an active practitioner that he added but little to medical literature. He was, however, one of the founders of the Philadelphia Obstetrical Society, and at one time participated actively in its proceedings. He became engaged in a discussion with Dr. William Goodell upon the relative value of podalic version and forceps delivery in narrow pelves, and submitted several papers upon the subject. This discussion awakened wide interest in the profession, although too highly spiced with personalities on the part of both of the principals.

Dr. Wilson was also a member of the College of Physicians of Philadelphia, and of the American Medical Association and of the County and State Societies. He was also a member of the American Gynecological Society, and at one time its vice-president. Before the latter Society he read a paper on "Tarnier's Forceps" and another on "The Treatment of Recent Laceration of the Cervix."

Dr. Wilson had probably as large an obstetric practice as any one in this country. On one occasion he attended nine cases of labor in twenty-four hours. With such vast opportunities for observation, the practical information possessed by him was almost unlimited, and he gave his patients the benefit of it. Had he found the time to lay before the profession his observations and conclusions based upon his own experience, obstetrical literature would have been greatly enhanced. Too often the busy
practitioner does not write, and too often journals and even textbooks are replete with the views of writers inexperienced in practical medicine.

Dr. Wilson was a man of strong character and positive convictions. His patients were firmly attached to him, though he was an autocrat in the sick-room and made everything yield to a consideration of the welfare of the patient. Untiring energy, persistent application to his professional work, and decided abilities made him an exceptionally successful man. He died at his country seat near Philadelphia on July 14th, 1889.

William H. Parish.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, March 19th, 1889.

The President, Dr. Horace T. Hanks, in the Chair.

Küstner's Bladder Dilator.

Dr. H. J. Boldt.—At the last meeting of this Society, Dr. Sims read a paper in which the question of dilatation of the bladder with water was discussed. I then took occasion to speak of the way in which this had been done by Nissen, of Christiania. The instrument used by him was Professor Küstner's bladder dilator, which I now take pleasure in presenting to the Society. It can be obtained of Reyners & Co. It consists of a short, straight catheter, made of glass or hard rubber, the outer end expanding into a funnel, whereby the urethra is completely occluded and the escape of the forcibly injected water prevented. During introduction it contains an obturator, which is afterward withdrawn, and attachment is made to the tube leading to the fountain.

I may say that, the day following the reading of Dr. Sims' paper, I had opportunity to employ the method with the Davidson syringe on a patient who had contraction of the bladder and consequent non-retention of the urine, and it seemed the syringe acted better than the irrigator. In the first place, it is handier; and, in the second place, it seems that the pressure can be better graduated than with the irrigator.

Dr. Skene thought the stem of the instrument was so long that it would impinge on the walls of the contracted bladder and do harm.

Dr. Malcolm McLean was of the same opinion, and added that
he had been able to distend the bladder sufficiently with the soft rubber catheter without any expansion to prevent the regurgitation of fluid. It was desirable to make distention gradually, and thus avoid, as far as possible, tenesmus.

Dr. R. A. Murray had employed, in distending the bladder, a double-canulated catheter, the second canula going off markedly at an angle from the first. If the patient complained of pain from overdistention, it was relieved at once by taking the thumb off the end of the second canula and allowing some of the fluid to escape.

Dr. Boldt said the same fact was accomplished, in the use of the instrument presented, either by allowing some of the fluid to escape by its side or by removing the nozzle of the syringe from the funnel.

**COMBINED STEM AND RETROVERSION PESSARY.**

The President showed a stem pessary, or plug, which was held in situ by means of an Albert Smith pessary having two solid rubber strings strung anterio-posteriorly from the anterior angle of the pessary to the posterior bar. The common Albert Smith pessary, pierced with a small hole at the posterior bar, will allow the passage of the rubber ring cord, which when through can be quickly fastened by a slip-noose or tied; then in front or at the small angle of the pessary is a small peg, so attached that the rubber ring cord can be easily and quickly fastened to it. These two rubber cords—which are the common rubber rings which you may buy at any stationer's—running from front to back, are so near together, like the strings of a fiddle, that they will hold as firmly as may be needed the stem at the pouch of the head where the grooves have been filed. This stem is grooved, as you see, to admit of perfect drainage. It is made of glass or hard rubber. Just at the head is seen the groove in which the rubber cords are to ride.

To insert the instrument, the patient should assume the knee-chest position. Then with a Sims speculum the cervix should be exposed and held firmly with a tenaculum while the stem is being inserted. Then, with forceps or a tenaculum, the head of the stem is passed between the rubber cords, which are allowed to slip into the groove in the head. The stem is held firmly or loosely, as may be desired, the tension of the rubber ring cord which is used always determining this. If a retroversion is to be corrected, it should be held somewhat firmly, while for simple stenosis of the internal os, in a uterus in perfect position, only slight fixation is required.

Others have devised instruments somewhat similar in their action, but there are none so easily manufactured, so easily inserted, and so comfortable and effectual in doing the work which is required of a stem pessary.

Dr. Wylie having asked the President for what purposes he employed the stem pessary, he replied that he used it in retrover-
sion where there was a very small vaginal cervix, and after divulsion where it was desired to keep the cervical canal dilated and to maintain drainage.

Being also asked how long he kept it in, he said the time varied with the susceptibility of the patient to the foreign body. Some patients could wear it three months without any damage whatever. He then had a patient still wearing it with perfect comfort, it having been inserted a fortnight ago.

Dr. GRANDIN.—The instrument suggests one which Dr. Kinlock, of South Carolina, has devised, and which is figured in some of the text-books, although in it the rubber band is transverse to the pessary instead of longitudinal. It seems to me that where a stem is to be used at all in conjunction with a retroversion pessary, the instrument shown to-night possesses decided advantage over the cup, in that it allows the uterus to undergo its normal movements. In other words, the organ is not fixed in any one position. Personally I have not found the stem of much use, and I have had one or two experiences with it which have rather taught me not to use it for retention of the uterus if the object can be accomplished without. As for drainage after divulsion, I think we can get as good drain without the stem as with it. A small piece of iodoform gauze inserted into the cavity and projecting from the cervix will act as an efficient drain, and the uterus will tolerate this better than a hard-rubber stem.

Dr. WYLIE.—My idea of a stem is that it should not be used as a pessary. I do use a hard-rubber drain, or plug, as I prefer to call it. I wish it to be understood that the object is not to replace or keep the uterus in position, but simply to overcome the tendency to contract, or to secure drainage. For a long time I have taught that these things are dangerous, and if patients go about with them they are very dangerous. I have operated upon at least four or five cases of salpingitis and ovaritis directly due to the stem pessary, which had been put in and the patient allowed to go away. I find that by taking patients in whose cases the stem pessary is supposed by some to be called for, thoroughly divulging, making application of carbolic acid, and inserting a hard-rubber drain and allowing the patient to wear it a week or two, I accomplish all that can be done by the stem pessary. I believe stem pessaries do cure some cases of dysmenorrhea and accomplish something. But it is because the canal is first dilated, and then their presence acts as a counter-irritant or alternative. But I prefer to speak of them, not as pessaries, but as drains.

My first objection to the instrument presented by Dr. Hanks is that soft rubber, unless watched closely, readily becomes septic, and is much more liable to result in poisoning than is hard rubber. I should be afraid to send the patient away with it. Sometimes when divulsion is performed and a stem introduced, there is a tendency for the uterus to contract and expel it. That is overcome by a pledget of iodoform gauze.

Dr. Polk.—As Dr. Wylie's object in using the plug is to establish drainage, he might dispense with it altogether and introduce iodoform gauze.

Dr. GRANDIN.—I have been doing that the past six months. After divulsion, I at once stuff the cavity with iodoform gauze, leaving it in four or five days, then removing it and introducing fresh gauze. The patient is allowed to go about. I must confess that my results after divulsion during this time have been much
better than formerly when I introduced a pessary into the uterus either for drainage or to keep the canal straight.

Dr. Polk.—To illustrate, a few days ago I operated in a case of pancreatic cyst, but, as the stomach lay directly over it, it was necessary to make a second opening. It was then found that the cyst was so far removed from the abdominal wall that it was impossible to bring it up and stitch. I simply pushed the intestines aside, stuffed in iodoform gauze, and left it in a week. Now, if the peritoneal cavity will put up with that amount of pressure, the uterine cavity surely will.

My experience has been identical with that of Dr. Grandin. It has appeared to me important to get at the root of this matter. We have to deal with a canal which has constricting fibres at the internal os, that, by their contraction, interfere with drainage. Those who use stem pessaries or plugs show thereby their recognition of this fact. Now, we know perfectly well that capillary drainage does as well as any other form. This is proven in laparatomy and other operations. But besides drainage we get the effect of the medicament contained in the gauze, whether it be iodoform or some other substance, which is certainly beneficial to the mucous membrane. If the gauze be inserted as it should be, I am sure the danger attending its use is less than that attending the use of the stem plug or stem pessary.

Dr. Wylie.—Dr. Polk has understood me correctly, that my object in inserting the stem is not to retain the uterus in position but to establish drainage. But I use it almost exclusively in cases characterized by an imperfectly developed, hard cervix which, even under ether, cannot be divulsed to any great extent; one cannot, without rupturing the uterus, introduce anything larger than a lead pencil. The reason why the operation often fails in the hands of many physicians is that they do not succeed in getting through the internal os, although they think they do. The cervix being so elastic, it stretches, and the operator may think he has passed through it when he has not. I should feel very doubtful whether in such cases the iodoform gauze could be passed in. Besides, the plug has proven so satisfactory in my hands that I have no object in changing my method of treatment. If the uterus be large and heavy, I usually first reduce it in size. Unless it is indurated and hard, I do not put in a plug. I should not be afraid of iodoform gauze, but I do not believe it could be applied in a markedly indurated, anteflexed uterus, in which alone I employ the plug.

Dr. Polk.—So far as concerns Dr. Wylie's objection, I may say that in the two cases in which I applied the iodoform-gauze drainage, the condition present in the uterus was just that which he has described, yet I was enabled to pack the cavity with the gauze perfectly. One can dissect the bladder away from the uterus, if he choose, as high as the middle of the body. I do not mean to say that it is necessary to do that, but that the reflexion of the peritoneum is such that it would be perfectly safe if necessary. Make your incision across the anterior wall of the vagina, and, if you choose, above the line of the internal os; but in these cases it is not necessary to go so far. Slit the cervix anteriorly, and you will be able to go through into the uterus, however much contracted the cervix may be.

A most marked case of that kind presented itself to me three months ago, in which I adopted that procedure and cured the
patient. Her condition had been precisely that which Dr. Wylie speaks of—a very large uterus, a very small cervix which, no matter how much one stretched it, within half an hour would be as small as before. An attempt to get the gauze in failed, because the cervix contracted so tightly. I then slit it far enough up to enable me to get into the uterus without difficulty. I admit that this procedure is likely to be followed by a deformity. That is, if the woman subsequently become pregnant, there will be a possibility of the child being born two or three weeks before term. Up to that time the internal os guards the entrance to the uterus. So far as hemorrhage is concerned, a pair of hemostatic forceps will control it perfectly.

The President.—Dr. Wylie objects to speaking of this instrument as a stem pessary. The term pessary is added because a pessary is used to hold the stem in place. I recommend it simply for use in the place of the one of Dr. Thomas, which is so difficult to apply. This rubber cord will keep sweet for six weeks. I know that to be true, for I have patients who have worn it that long. With reference to divulsion and subsequent contraction, I may say that one of the patients to whom I referred was sterile; she had a marked anteflexion, which I believe was the cause of the sterility. I divulsed the cervix up to No. 25 American scale a year ago, put in the plug which Dr. Wylie recommends, and left it in a week. The patient returned home, and wore the stem a few weeks longer. This autumn I found the anteflexion as bad as it had ever been, with as much contraction at the internal os. I requested her to consult a distinguished gynecologist of this city without telling him why she did so. He advised divulsion, for the cervix had the appearance of never having been divulsed. The operation was repeated, and the instrument which I have just presented was introduced, the stem being of glass. She has worn it now for three weeks without any distress. The uterus is no longer anteflexed, although it might become so if the instrument were left out.

Dr. Skene.—This pessary has always been known under the name stem pessary, and I see no reason why, as long as it is used, the term should be changed. Although we know that under certain circumstances it is an exceedingly dangerous instrument, yet I can imagine conditions in which it would be useful, and, in fact, accomplish the object as nothing else would. I know quite well that the glass stem and the Thomas cup are not easily brought together for use, but I am inclined to think, Mr. President, that while you have overcome the mechanical difficulty in this respect, there is still an objection to your method which does not apply to the stem and cup. In cases in which I have used this form of pessary, I have found that an important object to be accomplished was to have the stem, and the pessary which supported it, move independently of each other. As soon as you place restraint upon one end of the stem, that constantly moving organ, the uterus, will cause pressure upon it and do harm. I have seen no instrument in which the movements of the stem and of its support were as independent of each other as in the Thomas pessary. In this, if there be a perfectly smooth flange on the stem and a perfectly smooth cup, you have a perfect ball-and-socket joint, and the uterus may undergo various movements without making any pressure upon the stem. I am as much afraid of the instrument as anybody, yet I think it is hardly fair to discard it.
entirely because dangerous, for there are cases in which its use is almost imperative. As to drainage, that is another question, and I do not suppose it belongs to this discussion.

Dr. Clement Cleveland.—Some months ago I showed to the Society a glass stem, perforated about an inch from the end, which I had devised for keeping the os open after trachelorrhaphy where it was necessary to amputate both the anterior and posterior lips. The stem was fastened by sewing through the perforation. Dr. Tuttle told me he has been using this stem in place of the ordinary stem in cases of anteflexion, with satisfactory results. With it the uterus is quite at liberty to describe its normal movements.

Dr. Buckmaster.—According to Schultze's views regarding the normal position of the uterus, which are now receiving almost universal credence in Germany, a glass or hard-rubber stem would not be in order. He believes, as all present know, that anteflexion is due to contraction of the utero-sacral ligaments, and that the normal position of the uterus when the bladder is empty is in anteflexion. Therefore any stiff stem would prevent the uterus from returning to its normal position, and would cause trouble. The only stem which would be permissible, according to that view, would be one with a joint, which would permit the uterus to fall forward.

Dr. Wylie repeated the view that the only benefit derived from the stem pessary, aside from effecting drainage, was the effect of its presence on the mucous membrane. This could be better obtained by safer means. As to its use for straightening the uterus, it was too dangerous, especially when worn a long time, and should therefore be discarded.

ESCAPE OF A LIGATURE BY ULCERATION THROUGH THE ABDOMINAL WALL.

Dr. Polk.—The specimen presented is not extraordinary in itself. It is a ligature which had been passed about the round ligament in a case of hysterorrhaphy last October, and which ulcerated its way through the abdominal wall, coming out at about the end of the third month. It was returned to me by the patient. Her condition at the time of the operation had not been very good, although she stood it pretty well. But I had the misfortune to use the Hagedorn needle. I say misfortune, for I have rarely used it without pus forming along the line of suture. In this case I used the Hagedorn needle not only in passing the ligature, but also in closing the abdominal wound. There was suppuration along the line of sutures, and the suppuration doubtless extended down to the ligature, which accounted for its discharge.

In this connection I may say that to me the whole question of shortening the round ligaments is an interesting one. The operation which I did in this case, and have done at other times, is virtually that of hysterorrhaphy. I will say this, however, that the sutures were not passed in direct relation with the cornua of the uterus, as has been suggested by Kelly, Sänger, and others, for the simple reason that the pelvis, being of the male rather than of the female type, was so deep that the uterus could not be
brought in apposition with the abdominal wall even as low down as the symphysis. Therefore I selected a point to pass my sutures about an inch and a half distant from the uterus on either side. At this point the ligament could be readily caught and fastened to the abdominal wall. That also accomplishes the object of holding up the prolapsed ovary, if desired, or the procedure can be resorted to for the single purpose of holding up the prolapsed ovary.

This question, of course, infringes somewhat upon the procedure which Dr. Wylie has introduced—a very excellent one, as all must recognize, and I hope Dr. Wylie will not think for a moment, from what I am about to say, that I in any way claim priority in connection with the procedure, for I do not. The operation which Dr. Wylie has suggested is that of shortening the round ligaments inside the abdominal cavity for the purpose of holding the uterus forward. When I was working at this subject, I tried a good many different things, among which was to stitch the fimbriated end of the tube to the abdominal wound; and although I succeeded in a few cases, yet it did not amount to much, and I abandoned it.

This led me to investigate the procedure which Dr. Wylie has brought forward. I tried it in the post-mortem room, and found that it had no advantage over hysterorrhaphy, if you do not confine yourself, as has been advocated in hysterorrhaphy, to the cornua of the uterus. In other words, if you allow yourself to take any part of the round ligament, you choose to stitch to the anterior abdominal wall. Take a case in which the fundus cannot be brought in apposition with the abdominal wall. You can pass your ligature about the round ligament near its centre, and stitch to the anterior abdominal wall, and get as good or better results than by shortening the round ligaments within the abdomen. The point is this: that for the purpose of tilting the uterus forward hysterorrhaphy is really superior to any other operation, if one is willing to open the abdomen. Alexander's operation will hold its own in any case in which the uterus is sufficiently movable to be readily lifted. But in cases in which the abdomen has to be opened, I believe hysterorrhaphy offers advantages over any method of shortening the round ligaments, either within or without the abdominal cavity.

Dr. Wylie.—With regard to this suture, I would simply say that, like many others, it had become septic either before or after putting it in, and found its way out. Sometimes such sutures kill the patient before finding their way out. Especially where tying diseased tubes or tissue which contains septic material, the ligatures are apt to become septic, even though before use they were perfectly clean. When the ligature once becomes septic, it acts as a foreign body and must find its way out somewhere.

With regard to the operation of shortening the round ligament, I began the method of shortening it from the inside about four
years ago. I never liked the idea of sewing the uterus to the abdominal wall. Dr. Sims suggested it many years ago, although he did not practise it. It seemed to me not to be the proper thing to do; there seemed to be something too abnormal about it. This other method occurred to me in this way: Sometimes, when operating for the removal of the diseased tubes and ovaries, I would find the uterus retroverted and adherent. The other tissues were relaxed, and I could easily pick up the round ligaments, and when lifted or shortened the uterus would not fall back. I then practised this procedure deliberately in two cases, one of which was in a patient seen by Dr. Skene. The patient lived on Long Island, and came to me with a note from Dr. Skene. She had complete retroversion and some adhesions. I opened the belly as the best way to break up the adhesions. I did break them up and shortened the round ligaments, and to-day the woman's uterus is in perfect position. Before the operation she was practically bedridden.

But I do not think we should resort to this operation, or any other formidable operation, simply to put the uterus in what we believe to be the normal position. If the uterus is healthy, the position does not matter so much. But this procedure is certainly simpler than any in which the uterine walls are involved. By doubling the ligaments, it has been my experience that the uterus can be almost perfectly held in position, especially in those cases in which there is great relaxation. Except in one case where the woman was allowed to become constipated and the uterus tilted over to the left side, the position after the operation has been almost perfect in all cases, so far as holding the organ forward is concerned. Of course I do the operation carefully: take up a loop of half an inch or an inch, or, in some cases, an inch and a half, shortening it to any degree. It simply holds the uterus forward over the bladder. By including a little more tissue in the suture than the tube, I think the uterus can be held up more perfectly. It is certainly better than Alexander's operation. I have never tried sewing the tube to the abdominal wall. I should think the objection to it would be the same as that to sewing the uterus itself to the anterior abdominal wall, that is, danger of the intestine becoming caught. Then I think the uterus should retain its mobility as well as its normal position. In fact, I think more of mobility than of normal position.

Dr. Boldt.—Did I understand Dr. Polk correctly that he has usually found suppuration along the line of suture after the use of the Hagedorn needle?

Dr. Polk.—Yes, sir; I must confess that has been my experience, and I have abandoned the Hagedorn needle.

Being further asked by Dr. Boldt whether he could explain it, he said he could not. Replying to Dr. Wylie, he said he did not use the forceps with the needle. He had no trouble inside the abdomen, no peritonitis. The needle had been passed through the flame, and the same care as to antiseptic observed with regard to the suture, etc., as in other cases.

Dr. Buckingham.—I would like to hear from Dr. Skene, who has been making some investigations with regard to silk.

Dr. Skene.—I can simply say that I can hardly see any good reason why the needle referred to by Dr. Polk should be at fault. Yet the opinion of Dr. Polk is sufficient. The question of the silk being antiseptic, and behaving well if it is antiseptic when used,
I think depends entirely upon the method of preparing it. To simply sterilize silk by heat or other methods, and then saturate it with, say, a solution of bichloride of mercury, does not, in my opinion, render it safe. It is aseptic when used, but the little aseptic matter which it contains soon gets washed out or soaks into the tissues. If then the wound remain clean, the silk will not prove septic; but if there be any filth deposit or suppuration of the tissues about, I see no reason why the silk suture or ligature should not become septic, cause suppuration, and find its way out as in Dr. Polk's case. It depends entirely upon the silk remaining aseptic, and that it will only do if properly prepared.

The President.—I feel very sure the Hagedorn needle is not at fault. It ought to make a clean wound. Those who attend these meetings regularly will remember that about three months ago we discussed the subject of sutures. We found there were a great many mural abscesses in quite a number of hospitals, but certainly not due to the Hagedorn needle, because the Hagedorn needle was very little used in sewing up abdominal wounds. At the Woman's Hospital for the past two months I have used the Hanks-Hagedorn-Peaslee needle. It is the Peaslee needle, except that it is ground at the point like the Hagedorn, and the eye is passed through laterally instead of antero-posteriorly. Dr. Lee and I have used it constantly for two months and have had no suppuration.

I would inquire whether or not the wet bichloride dressing the first two days is not better than dry iodoform. For the past two months I have used the wet bichloride dressing during the first two days, keeping a rubber tissue over the dressing so as to retain the moisture, and there has been no suppuration. As just stated, two months ago we were searching for what caused our mural abscesses, and I concluded that I would do very differently from what I had been doing. I have had no abscesses since. I have succeeded better because more certain of using only aseptic materials.

Dr. Skene.—I do not believe that by the use of iodoform, either in gauze or as a powder, you could be at all sure of avoiding suppuration. I have found, and I believe it is the testimony of bacteriologists also, that iodoform is about the mildest kind of germicide. A number of germs seem to live and thrive in it. Then the powder is often diluted by being dusted into gauze, and, furthermore, there may be wax or oil about the material which prevents it from absorbing the serous exudation. Really, I should expect suppuration if I dressed the abdominal wound with iodoform gauze. I should certainly look for it. I have had no experience with gauze saturated with bichloride, but the dressing which I have employed for years, having obtained it from Mr. Keith, is composed of one part of carbolic acid and eight parts of glycerin. the gauze being thoroughly saturated with it, wrung out dry, and placed over the wound; that protects the wound and absorbs all blood and serum. So strong a solution of carbolic acid would be destructive to the tissues if they were not protected by the other antiseptic, glycerin. If I ever have suppuration in the wound, I know it is due to some abuse in the operation, not to the dressing. If my wound is clean and the sutures clean, I can depend on that dressing every time.

Dr. Polk.—I simply wish to say, with regard to the possibility of these ligatures being septic, that, of course, we all know the
liability to sepsis, and we must be constantly on our guard against it. But that which impressed me was that this same suture material, used to ligate the stump of the ovarian tumor or of the stump in Tait's operation, should be dropped into the abdominal cavity with impunity, not a single inflammatory reaction following, yet when used with the Hagedorn needle in closing the abdominal wound there should on the fourth day be evidence of pus. Under these circumstances, it occurred to me there might be something in the form of injury which the Hagedorn inflicted on the tissues. Of course it means sepsis if there is suppuration, but I think the Hagedorn is more likely to be followed by it than other suture needles.

Dr. Wylie.—With reference to suppuration along the sutures in the abdominal wound. I would say that Dr. Tuttle has told me that in the Roosevelt Hospital for some time past they have been using ordinary potash soap to cleanse the abdominal wall before incision, and since adopting that practice they have not had any case of suppuration. It seems to me the real cause of suppuration is not in the form of the needle, but in not getting the skin perfectly clean, and in not applying the dressing in a way to keep out germs and prevent sepsis. As to iodoform, I have used it for so long a time, and have had such perfect success, sometimes running as high as seventy-nine cases without a death or even an abscess, that I do not like to drop it. It certainly does no harm.

The method of squeezing gauze out of a solution of bichloride I have followed many times, but it is necessary to wring it rather dry, else in many cases it will irritate the skin, and even cause an eruption.

Dr. A. J. C. Skene read a paper entitled

FIBRO-CYSTOMA OF THE UTERUS.

The patient was unmarried, large and strong, and had enjoyed excellent health until she was thirty-six years old. At that time, three years before I first saw her, she began to have pelvic tenesmus and pains of an ill-defined character. These did not interfere with her duties, which were numerous, and taxing to mind and body. Menstruation was regular and normal in every respect, and always had been so. Less than a year before the writing of this history, she noticed the abdomen enlarging, and during that time she lost flesh. She also had attacks of severe abdominal pain, some of them inflammatory, perhaps, but mostly neuralgic, from pressure disturbing the circulation.

When first examined, there was a tumor in the abdomen about the size of the uterus at the eighth month of gestation. The upper portion of it was smooth and well defined, and there was distinct fluctuation, showing that more than half of the tumor was cystic. The lower portion was solid and irregular and slightly nodulated. There were no signs of adhesions at the upper portion of the tumor, but it was fixed below, but whether from adhesions or its pelvic attachments was not clearly made out. By the vaginal touch the dependent portion of the tumor was found well down in the sac of Douglas, and was quite solid. The uterus was crowded forwards
and upwards; it was not enlarged and could be moved laterally sufficiently to show that its body and cervix were not attached to the tumor. The fundus uteri could not be detected. The history and physical signs quite satisfied me that the tumor was ovarian. In this diagnosis several of my friends coincided, but an active doubt was entertained regarding the true character of the tumor. It was presumed that it might be either a cystoma with a rare amount of fibrous tissue, an intraligamentous tumor with large masses of papillary growths, or a dermoid cyst. The thought also occurred to me that it might be a fibroma of the uterus, with an ovarian cyst, but the close association of the solid and fluid portions of the whole mass, and the size of the uterus, excluded that suspicion. Suffice it to say that the true character of the case was not made out until the operation.

Operation.—Incision three inches in length having been made, and the tumor found to be solid at lower part, as diagnosed, the incision was enlarged to beyond the umbilicus. A trocar was then introduced into the upper part of the tumor and eight pints of fluid were evacuated. The mass was then turned out, bringing with it a coil of small intestine and the uterus, the tumor hanging from the top of the fundus by a very short pedicle. A wire clamp was fixed on the pedicle, but this cut through the peritoneum, causing considerable hemorrhage. A smaller clamp was then fixed and the attachment to the uterus divided. The adhesions to the intestine were then ligated and separated; they were firm, close, and very vascular. The left ovary, being diseased, was removed. A small pedunculated fibroid on the right side of the uterus was also removed. The right ovary was healthy. The stump in the clamp was brought to the lower angle of the wound, and the wound was closed with fourteen deep silk sutures. Time of operation, fifty-six minutes.

Patient reacted well, and in the evening was so comfortable that the dressing around the stump was not touched. Next morning, on examining the case, I found from the dressing that there had been some slight hemorrhage, and to my surprise found the clamp lying empty, the stump having completely disappeared into the abdominal cavity and the wound quite closed over it. As there was not the slightest sign of internal hemorrhage, I decided to let well enough alone. All necessary preparations for opening the wound and recovering the stump, in case of hemorrhage, were made, and the patient most carefully watched, but there was no trouble of any kind. According to the usual rule, the wound healed by first intention, and the patient returned to her home in less than a month after the operation.

This is the first experience I have had of the stump escaping from the clamp, and I can only look upon it as an exceedingly interesting and, in this case, fortunate accident. It also helps to confirm an opinion I have long entertained, viz., that instead of
following a rigid rule of treating the stump by the intra- or extra-
peritoneal methods, it is well and better to adopt the method best
suited to each case. I am satisfied that in this case I might have
treated the stump by ligature and returned it into the abdominal
cavity.

Prof. Frank Ferguson and his associate, Dr. Belcher, reported
upon the pathology as follows: The tumor is a flattened ovoid,
weighing eighty-two ounces, with a greater circumferential meas-
urement of twenty-eight inches. Its consistence is hard and firm.
The exterior of the tumor is rather smooth and covered through-
out nearly its entire extent with what seems to be peritoneum.
One-half of the tumor is solid and the other half is cystic, the
largest cyst having a capacity of three quarts. This cyst com-
municates with numerous small cysts; their interior is rough and
shreddy, and they contained altogether over a quart of a reddish-
brown fluid, rich in albumin and under the microscope showing
many red blood cells.

Microscopically the tumor is composed largely of fibrous tissue
with numerous non-striated muscular bundles. In the neighbor-
hood of the cyst there are numerous spindle and branching
cells resembling mucous cells, but they are in a stroma of
fibrous tissue and are regarded as the ordinary connective-tissue
cells. The walls of the cyst have no cellular lining, and in their
etiology they are regarded as degenerative, and the fluid which
they contain could be readily obtained from the rich supply of
blood in the wall of the cyst.

There are several questions, based upon the brief history of this
case, which may be raised for discussion.

First of all, in regard to diagnosis, was the mistake in this case
unavoidable, owing to the nature of the history and physical signs,
or would a larger experience enable me to be more accurate? It
is admitted by the highest authorities that a fibroid may be mis-
taken for a fibro-cyst, owing to varying degrees of density in dif-
ferent parts of the tumor, distention of the uterine cavity with
menstrual fluid, or masses of distended veins; but I infer that
the distinction of a fibro-cyst of the uterus and an ovarian tumor
is considered by authorities to be easy and certain. Nevertheless,
a careful following of the rules for diagnosis in abdominal tumors
was unreliable in my case.

The pathology and anatomy of this tumor suggest to my mind
that it may be a true uterine fibro-cyst. At least it appears to be
more of that character than any tumor I have ever seen. If
such be the case, a new explanation of its genesis must be sought
for, and I will venture to give my own impressions on the subject.

In order to make this as clear as possible, I may state the
facts already quite familiar to you, viz., that the cyst-like forma-
tions usually found in uterine fibroids are said to be developed
either by softening and disintegration of portions of the tumor,
which give rise to intramuscular cyst-like spaces with no appearance of their having cyst walls, or by edema and softening of the infiltrated tissue in circumscribed portions of the tumor; or to be due to hemorrhages and breaking-down of the blood clot.

I submit that this specimen does not appear to have any such origin. The location of the cyst is between the fibroid and its capsule; there is no indication of the solid tumor having broken down to an extent sufficient to supply four quarts of débris; there were no broken-down tissues found in the fluid, neither was the fluid a simple transudation. The character and quantity of the fluid and the pressure of the cyst wall oppose the theory of edema or transudation. Again, there is an appearance of a cyst wall, though not well defined, indicative of being capable of secreting the fluid in this cyst.

Assuming that the recognized theories of the genesis of fibrocysts of the uterus do not satisfactorily account for this case, I offer the following opinion regarding the pathology of the case in question, and I do so with the desire to call forth discussion, and not as a contribution to definite pathology.

That the cyst is formed from the transformation of a blood vessel or vessels. This theory would explain all or most of the facts regarding these cysts in a more satisfactory manner than any of the theories given in our literature. This idea of the genesis of cyst formation is not new. A distinguished Fellow of this Society, Dr. Noeggerath, claimed that certain ovarian cysts were developed from blood vessels, and gave a large number of microscopical investigations in support of his view. I am satisfied that a similar origin may be rationally claimed for the development of this uterine fibro-cyst, but I hope to hear the views of the Fellows present, which may confirm or refute this theory.

That there is room for discussion no one will doubt, and that it would be profitable if some definite conclusions could be reached is equally apparent. There is also room for hope that by extending investigations in this department of pathology other and equally important subjects may be made more clear and accurate. It has been said that gynecologists in general were not profound pathologists. This is indicated by the fact that they often and on many questions differ among themselves. However, it appears to me that within a few years much progress has been made. For example, a great many of the inflammations of the pelvic organs have been more definitely located, and in many of these the cause has been traced to the many forms of non-specific or specific sepsis. The genesis, history, and histology of neoplasms have been clearly defined in the majority of cases, and if more insight could be obtained regarding the inflammatory affections which are not due to sepsis, but produce certain degenerations of the organs involved, much would be gained.

The practical utility of a knowledge of the true pathology of
fibro-cysts of the uterus is that it may guide to a more rational treatment, and that appears to be much needed at the present time. The diversity of opinion regarding the treatment of fibroma and fibro-cystoma is perhaps due to the fact that the location, conditions, and complications of such uterine neoplasms call for different kinds of treatment, and the advocates of the various methods might more wisely elect the proper treatment in given cases if more reliable experience were obtained regarding the adaptation of certain means to the different morbid states.

In reply to Dr. Wylie, the reader of the paper said the diameter of the pedicle of the tumor was not greater than an inch. It was short, yet it allowed perfect mobility of the uterus while the tumor remained at rest. In reply to a question by the President, he said the tumor was a subperitoneal, pedunculated fibro-cyst, removed from the fundus of the uterus.

Dr. JANVRIN.—This case reminds me very forcibly of one in which I assisted Dr. Peaslee fourteen or fifteen years ago. The patient, a maiden lady of about thirty-five, had a large tumor which Dr. Peaslee diagnosticated as an ovarian cyst, probably a monocyst. Dr. Emmet, Dr. Trask of Astoria, and I assisted him at the operation, which was performed in Astoria. He first tapped the tumor, after opening the abdomen, and then turned it out, when it was found to be a large fibro-cyst, attached, exactly as the one in Dr. Skene’s case, to the fundus of the uterus; the womb being of normal size, and the stump of the tumor about an inch and a half in length by about an inch and a quarter in diameter. The stump was transfixed through the centre by the Peaslee needle, a very strong silk ligature passed through and tied on either side, the ligatures, of course, interlocking as usual; the uterus was returned to the abdominal cavity and the abdominal wound closed. The patient made a perfect recovery, and is living at the present time, in perfect health. It was a case in which it was impossible to diagnosticate the condition from an ordinary monocystic ovarian tumor, and of course was supposed to be such.

The dropping-back of the pedicle within twenty-four hours, and the non-appearance of hemorrhage, remind me of a method which Dr. Peaslee applied sixteen or seventeen years ago to the treatment of ovarian pedicles. It consisted in the use of a small, flattened silver canula about the length of the finger, with a hilt at one end, with perforations running lengthwise of the canula large enough to pass silk ligatures through, with which the transfixed pedicle was ligated. The upper half of the canula was held in the lower end of the abdominal wound. At the end of forty-eight hours, a small knife, perfectly adapted to the interior of the canula, was passed down and the ligatures cut; then, on withdrawing the canula from its position, the silk ligatures came with it, leaving the pedicle perfectly clean. I remember quite well removing a number of the canulae with the ligatures, which was always done at about the forty-eighth hour. The reason for Dr. Peaslee’s not leaving the canula in longer was this: Some years prior, Dr. Speir, of Brooklyn, had demonstrated by experiments upon animals that forty-eight hours was all the time required for ligatures to remain without hemorrhage taking place on their
removal. Following up these conclusions of Dr. Speir's, Dr. Peaslee made use of them, as before mentioned, in the treatment of the pedicle of ovarian tumors.

Dr. Wylie having asked whether Dr. Skene had used transfixing needles in the stump above the clamp, Dr. Skene said he had not in this case. It was the only time he had ever left a pedicle of that kind of tissue in the clamp without doing so. He would not do it again.

Dr. Wylie.—I cannot say that I have ever seen a tumor just like this one. My experience with fibro-cystic tumors has included two kinds, the one where the cyst was in the centre, and the other in which there were a number of small cysts in a very vascular tumor. To the latter, it seems to me, Dr. Skene's idea regarding the origin of these tumors might be more applicable. I removed one no less than sixteen inches in diameter, weighing sixty pounds, which was so vascular that when I lifted it out of the abdomen, and before I tied it, I was yet uncertain whether I had a cyst or a large solid tumor, or at least a fibro-cystic tumor. Dr. Polk, who was present, will remember that I put in a large trocar and got nothing but blood. But when the tumor was examined afterwards, it was found to contain a number of small cysts, holding from a drachm to three ounces of yellowish fluid. They were numerous, just as might be expected if due to a change in the arteries.

I think the doctor is perfectly right with regard to tying the pedicle. I think there are cases in which a great deal of trouble would be avoided by tying and dropping back. My rule has been, where the pedicle contained very little muscular or fibrous tissue, not to hesitate to tie the stump and drop it back. But if there is much muscular and fibrous tissue, I think it is better to use a clamp which will screw up. I leave the clamp outside the dressing, where an assistant, who watches it very carefully, can tell by turning it up, and without looking at the stump, whether it is tight enough. Every few hours he turns the écraseur, and if it is not tight enough he makes it tight. I have found this necessary, because after muscular or fibrous tissue has been tied it undergoes a change, shrinks, the ligature becomes quite loose and is liable to slip. That is the reason why I have not been willing to tie muscular or solid tissue and drop it back. I have, in all cases excepting one, used the pin, and I believe that without the pin, where there is much traction on the stump, it would slip through the clamp. It is very important to have the clamp watched and tightened from hour to hour, if it get loose.

Dr. Polk.—The questions raised by Dr. Skene, all must agree, are very interesting. With regard to diagnosis, it appears to me that without an exploratory incision, unless the woman had very thin abdominal walls, it would be almost impossible to make the diagnosis in such a case. As to pathology, I should like to ask Dr. Skene whether this tumor was more a myoma than a fibroma. The mass seems now to contain more myomatous than fibromatous tissue.

Dr. Skene. — Myo-fibromata, I should think, would be more nearly the right name for it; yet my opinion is not very reliable, since I have not examined it with care in regard to its histology.

Dr. Polk.—Those cases in which the muscular tissue predominates are more rapid in their growth than the others, and consequently have a much greater blood supply. The fact of its being
pedunculated would show that its nutrition must have been seriously suffering. This change, as the pathologists tell us, is degenerative, and was especially marked in this case. But the question arises, Was the change due to hemorrhages in the tissue or to other conditions? There is no question that these cysts may arise from blood vessels when they are undergoing degenerative changes, and it occurred to me that very careful examination of the lining of the cysts might throw some light on that question.

With regard to treatment, it seems to me Dr. Skene's remarks, implying that no one method can yet be decided upon as invariably the best, will generally be accepted. I am a little surprised to hear Dr. Wylie lay so much stress on pins. Now, the accident which occurred in Dr. Skene's case is just what should be sought for intentionally in many cases. I do not mean that the pedicle should always be dropped into the abdominal cavity. That, as Dr. Wylie has indicated, depends largely upon the kind of tissue one has to deal with. I do not believe there is any necessity for pins, nor do I believe there is any necessity for those ligatures which produce large masses of necrotic tissue upon stumps. The period of convalescence is thereby much prolonged on account of the sloughing which takes place either from the rubber ligature or the clamp, and the dragging upon the pin is often very annoying. I would like to ask Dr. Wylie a question—which, however, may be out of place—viz., Does he not think that in the case he operated upon there was too much tension on the stump?

Dr. Wylie.—Yes, but it could not be avoided. The broad ligaments were so diseased that I did not dare to drop them back.

Dr. Polk.—I spoke of the uterine stump as it was after you had cut off the growth. In some four cases the plan which I adopted was this: I found that I could not take out the entire mass, as Dr. Stimson has recently suggested, nor could I follow the plan of Dr. Dudley—a modification of Schroeder's—so I cut off the tumor, stitched the peritoneum of the growth to the abdominal wall, cut out the stump, put in a piece of iodoform gauze, and closed the abdominal wound over it. I had ligated the uterine artery with a piece of aseptic silk before amputating the stump. The ligature effectually prevented hemorrhage. The result was that at the end of four weeks the patient was able to be up. I had none of that sloughing mass usually seen. By passing the sutures in such a way as to include, not simply the peritoneum, but the fascia of the rectus muscle and a portion of the uterine tissue as well, there is not the slightest danger of the ligature cutting out. In the first place, you can regulate the amount of strain, because you can cut off the uterus at the point you choose, and thus you need have none of that traction which I look upon as the cause of a fatal result in many cases where the clamp is employed. The broad ligaments can be ligated and dropped back, so that traction through their presence in the stump does not come up for consideration. It is simply a question of traction on the remains of the uterus and its immediate vaginal connections. You get rid of the strain and shock which are the invariable accompaniments of the other procedure. I suggest this plan as one of the alternatives to be adopted under certain circumstances. I do believe we can get rid of the pins and ligature, which create a large mass of necrotic tissue.

Dr. Mundé.—The method of dropping back the stump is certainly the ideal one, but it is also certainly not perfect in its re-
sults. I think the safest method is that adopted by Dr. Polk, or a modification of it. Two or three years ago, I saw Billroth perform a similar operation, but I never heard the result. There were repeated profuse hemorrhages from the stump, which were checked by tying artery after artery, and finally by sewing the stump to the abdominal wound. I have had seven cases of abdominal hysterectomy for fibroids, five of which recovered, and of the other two one died of shock attending secondary hemorrhage from a rupture of the adherent mesentery, and the other of suppression of urine. These fatal cases can therefore not be counted when speaking of the results of treatment of the pedicle. In my first two cases I used pins and steel wire, which was tightened until the stump dropped off after twelve or fifteen days. In three cases I used the elastic ligature with the pins. I do not know what I should have done without the pins, for I should have feared slipping of the ligature without them. It is true, they render the patient somewhat uncomfortable. I should not wish to place myself on record as in favor of omitting the pins and thus of running the risk of slipping of the elastic ligature, nor do I desire to be quoted as wishing to cease using the elastic ligature. Indeed, I like the elastic ligature better than anything else. On Wednesday last I operated on a case, using the elastic ligature and pins, sewing the peritoneum around the pedicle below the ligature, and the patient has had no rise of temperature. The pedicle is necrotic, but what of that? The pins are only an inconvenience. There is no hemorrhage and no sepsis. If one could do Polk’s method it would be better, but there are cases in which it cannot be practised.

As to diagnosis, I do not believe anybody can always or usually diagnose a fibro-cyst of the uterus without first opening the abdomen. I have had two cases, one of which I took for a multilocular ovarian tumor. The uterus was behind, and at the operation the tumor was found to be attached to the fundus by a small pedicle. The other also appeared to be a multilocular ovarian cyst, but proved to be a soft myoma.

Dr. A. P. Dudley.—Although I may be the youngest operator of those who have spoken. I shall stand for dropping the pedicle back every time where it can be done. I consider this the better method of operating, although Bantock, when he was here, told us that he has had better success with the other form. Anybody, however, can have success when he can choose his cases. I do not believe any fibroid can be so spread out that it cannot be enucleated with some hope of success, if we operate in such a way as to close the peritoneum over the stump. By that method I believe that in eight cases out of ten we give the patient a better chance of recovery, and cause her less pain and deformity. Of six cases which I have operated upon I have lost three, and in those three the stump was extra-peritoneal. I used the clamp and the pins, and stitched the peritoneum to the abdominal wall around the stump carefully, and I felt quite sure that the operation was made as nearly antiseptic as could be done. Still, an accident happened in each of the three cases, and the patient died. In the other three I dropped the pedicle. The growth was large and had extended down to the internal os. In one I was obliged to enlarge the incision to two inches and a half above the navel, in order to get the tumor out of the abdominal cavity. It weighed twelve pounds. The pedicle was broad. I enucleated it from the broad ligaments, quilted them down to the tumor, cut them off and dropped
them; I then enucleated the tumor from the cervix, after having stripped off the outer layer all around: left only about half the cervix, transfixed this with silk or catgut inside the portion I had stripped off, and covered it with the peritoneum. Thus I had an absolutely clean abdominal cavity, with only a line of catgut sutures running from one broad ligament to the other. There was no raw surface in the abdominal cavity. On the third day I dilated the cervix, and let out what discharge had taken place. The temperature did not rise above 100° F. in any one of the three cases. In the future, I shall treat no case by the extra-peritoneal method if I can do it in the way just described. Speaking of hemorrhage, I do not know why we should have so much fear of hemorrhage when treating the broad ligament in that way, quilting it down, and especially if we also ligate the uterine artery. If hemorrhage does take place, it will be below the peritoneal cavity and the blood will make its way out through the cervix. I shall stand as an advocate of the intra-peritoneal method.

Dr. Wylie.—I would like to say this: We are too apt to be governed by our own limited experience. I had a run of nine successive cases treated successfully by the extra-peritoneal method, and I did not care to change. But I am not wedded to any one method. Different methods are suited to different cases.

The President.—I should like to ask Dr. Skene if he does not believe that in a pedunculated myo-fibroma of this character, which has existed two or three years, the moment the clamp is put on and tightened the fibrous structure would separate and leave only a pedicle of peritoneum and vessels. It seems to me that is what happened here, and it is what happened in two cases of pedunculated fibroids which I have removed. In those two cases I believed that a very strong ligature was required, and in tightening it I felt that I was pushing the fibroid growth from the uterus, and that only peritoneum and vessels remained in the ligature. There was no hemorrhage. The stump was dropped in and the patients made an uninterrupted recovery.

Dr. Skene.—Briefly, I would say, as to that, that the pedicle usually holds in its capsule fibroid tissue. If you put your clamp low down on a short pedicle, where the fibrous tissue and the uterus come near each other, I think that happens which the President has stated, that you simply include in the stump the capsule of the tumor, not any portion of the tumor itself or uterus. If the pedicle were simply composed of capsule, I should certainly do what the President has suggested. But if the muscular tissue of the uterus and tumor came close to each other, I should be very careful about enucleating, for if hemorrhage took place I do not know how it could be controlled, except by ligating the vessels down in the uterus. I know you may stitch and sew, but the stitches will break out and you will get secondary hemorrhage.

The discussion has been so thoroughly on my side that I have little to add. Certainly, if I used the clamp—even the wire clamp, as I did in this case—I should put in the pins, especially if there was much pedicle, because the central portion will drop unless pins are used. I should not have used the clamp if I had felt sure that I could have possibly avoided it. Yet I might have avoided it in this case, as the after-history shows. But our best judgment does not always come to us at the time of operating. I would use
the pins in that way when I found the clamp necessary and the pedicle was thick.

I have nothing to object to except what has been said by Dr. Dudley. I would not be so positive as he is in the selection of the method of operating, by any means. The records show that the extra-peritoneal method gives the best results, although the intra-peritoneal method would seem to be most in keeping with what are regarded as good surgical principles. The intra-peritoneal method saves time in recovery, but I do not think we should abandon the extra-peritoneal method in suitable cases.

DR. DUDLEY.—I should agree with Dr. Skene if it were not that the stump, in the operation I speak of, is extra-peritoneal; the stump is below and outside the peritoneum.

DR. SKENE thought Dr. Dudley's explanation made a distinction without a difference. He understood that usually in the intra-peritoneal method an effort was made to cover the stump by the peritoneum, and in that sense make it subperitoneal. Yet it was what was regarded as the intra-peritoneal method.

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TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

Friday, June 7th, 1889.

The President, Dr. Theophilus Parvin, in the Chair.

DR. WM. GOODELL reported the following history of

A CASE OF EXTRA-UTERINE FETATION,

and exhibited the specimen:

The patient had been married for a number of years without conceiving. Her catamenia had been regular up to the time when they ceased for nearly seven weeks and morning sickness set in. The next monthly period was free for a few hours and then merely a show of blood which lasted several days. During this dribble severe intercostal pains, lasting two hours, followed a movement of the bowels. For several days there was great soreness of all the muscles. At irregular intervals these intercostal pains reappeared and were always followed by much muscular soreness. There were few pelvic pains, nothing like cramps, and Dr. Goodell was called in on account of a continuous dribble of blood which had lasted for three weeks. During this metrostaxis membranes were twice passed, which were supposed to be fragments of an early miscarriage. Dr. Goodell found an irregular tumor to the left of the womb, closely adhering to it and pushing the fundus over to the right.

In view of the history, a diagnosis of extra-uterine fetation was made, and the operation was promptly performed three months
after the cessation of the last regular monthly period. There was no appearance of old or of fresh blood in the abdominal cavity, such as is usual in many of these cases when rupture has taken place. But of course blood escaped during the breaking-up of numerous adhesions to the rectum and the broad ligament. The specimen shows the left ovary and the corresponding tube greatly enlarged by a deposit of placental tissue. Dr. Osler, who was kind enough to examine the specimen for me, states that the chorion villi are unmistakably present. No fetus was discovered, but it may have perished and become absorbed, or it is possible that it may have escaped into the abdominal cavity through an opening made accidentally into the sac during the process of enucleation. So vascular was the sac that a stream of blood spurted out from this tear as if it came from a large vessel. Apart from a nervous attack of vomiting, which lasted nearly twenty-four hours, the convalescence was uninterrupted.

Dr. J. Price.—I am satisfied that Dr. Goodell's explanation of the absence of the fetus is correct. I could cite two or three cases and an experience of my own which support this view. Mr. Tait's first two cases made tedious recoveries, and in both he failed to find the fetus. Some time ago I did a section with a doubtful diagnosis. Some one standing by asked me what I expected to find. I replied, "One of twelve things." I went on and removed a large adherent tube, ruptured, with the abdomen pretty well filled with clot. I then irrigated the abdomen. After using one pitcher, the water returned perfectly clear. To make the toilet thoroughly satisfactory, I used the second pitcher of water, and, in finishing the second toilet, washed out a little boy. In this case I am satisfied that the peritoneum could have taken care of the fetus by digestion, as probably occurred in Mr. Tait's cases.

Dr. Howard A. Kelly.—I think that this case illustrates how readily we can make a satisfactory diagnosis, given symptoms being present. With a certain order of symptoms and signs, we can with the utmost certainty diagnose extra-uterine pregnancy in a certain proportion of cases. In another large proportion of cases, it is a matter of mere conjecture until the abdomen is opened. I operated this week on such a problematical case, one of the two possibilities being extra-uterine pregnancy. Such proved to be the condition, although no fetus was found. I found the sac and the placenta within the ruptured tube.

In a recent book on this subject by Strahan, he unfortunately fails to notice some experiments on the disappearance of the fetus after its expulsion into the abdominal cavity. Leopold has experimented by introducing fetuses into the abdominal cavity of dogs. These have been digested until the period of the more distinct development of the bony tissues has been reached. After that period they have become sources of irritation, and have been cast off by suppuration.

Dr. M. Price.—I do not think that a study of the cases on record will make a man perfectly satisfied that he can say when he has a case of extra-uterine pregnancy. The ablest men throughout the world have satisfactorily decided that question. They
have made mistakes time and time again. They have cut for supposed extra-uterine pregnancy and found something else. They have cut for something else and found extra-uterine pregnancy. It is very difficult to decide until the abdomen is opened.

A ruptured extra-uterine pregnancy can only develop in the broad ligament. If it ruptures into the peritoneum, there is not a single case on record where, if the operation is delayed a number of days, the fetus has not disappeared. Hundreds of cases are on record. I have, myself, seen eight or ten where the fetus could not be found, where the microscope positively showed the presence of extra-uterine pregnancy. Those cases that go on to development are those in which there has been first a rupture into the broad ligament, and then development up to a certain time when the child can resist the digestive action of the peritoneum.

I would ask if this woman or any other woman with extra-uterine pregnancy could be benefited by electrical treatment. There is no question in my mind that in these cases electricity has done a vast deal of harm and has aggravated symptoms already existing, and has imperilled the woman’s life to a greater extent than if she had been left entirely to nature. The knife, as Dr. Goodell has used it, is the only treatment. Delay is not justifiable at any period, unless when the case comes into the hands of the surgeon the child has passed to that degree of development that warrants its being left to the period of viability. All of these cases demand operative procedure at an early period, if they come into the hands of the operator.

Dr. William Goodell — I fully agree with the remarks of those gentlemen who hold to the uselessness of electricity. I think that there is only a single class of cases of extra-uterine fetation in which electricity might be valuable, and that is in the early weeks before hemorrhages have occurred. An examination of the specimen before us shows, to my mind, that hemorrhages must have taken place in the tube, forming layers of organized clot. In such cases, I do not see how it is possible for electricity to do anything but harm. In those occasional rare specimens in which the chorion has remained intact, resembling an abortion coming away without rupture, the ovum being nothing more than a delicate but shaggy bladder, with the fetus inside, I can understand how electricity could do good by destroying the life of the fetus. Then everything might readily become absorbed; but as we can never know positively beforehand whether or not hemorrhage has occurred, my own feelings are in favor of immediate section.

While the difficulties of diagnosis are undoubtedly very great, this need not interfere with our treatment. We find a woman suffering from certain pelvic symptoms, and we discover an extra-uterine tumor of some kind. Now, a painful pelvic tumor must be removed, whatever it is. The only change in the treatment would be to hasten on the operation were the symptoms pointing in the direction of extra-uterine fetation.

Dr. Howard A. Kelly read the report of

A CASE OF CHOLOCYSTORRHAPHY FOLLOWED BY CHOLOCYSTOTOMY AND EVACUATION OF ONE HUNDRED AND EIGHTY-EIGHT GALL STONES, AND RECOVERY.

Operative procedures practised upon the gall bladder must
always remain among the rarities in abdominal surgery, on account of the difficulties attending correct diagnosis and the technical difficulties of treatment.

The indications for operation are also more rarely found in any intrinsic disease of the gall bladder, but certain rather to disease elsewhere, whether through the formation of calculi or stenosis of the common gall duct, by which the bladder itself is transformed into a retention cyst.

And inasmuch as this is the chief characteristic of the disease, it also forms a very important factor in accounting for the failure of the operation to cure the patient of all disability, and to accomplish more than a mere technical operative success.

Technical.—Inasmuch as the operation becomes one for the evacuation of the contents of the gall bladder or common duct, the technique of the operation involves an answer to the simple question, "What is the safest method of opening the gall bladder, and the safest after-treatment of the wound thus made?"

Under pathological conditions the contents of the gall bladder are often irritating, and must be carefully excluded from the peritoneum.

The plan which I adopted in the following case is applicable to a certain percentage of all cases, and will yield excellent results wherever similar anatomical conditions are found.

The steps are:

Incision through the abdominal walls at that point at which the gall bladder or its notch in the liver is to be felt most prominently.

Suture of the gall bladder to the margins of the incision.

Evacuation of its contents, either immediate or after the visceral and parietal peritoneal surfaces have united.

This preliminary suture of the gall bladder to the abdominal wall, excluding the peritoneum from danger of septic influence, fixing the gall bladder and providing for the subsequent escape of its contents by a fistulous track, is a step in the technique, with its own technical peculiarities, of such importance that I have dignified it by the name of "CHOLOCYSTORRHAPHY."

The application of the principles involved will be developed without further discussion in the account of the following case:

Frau B., a wizened, brown-skinned little German woman, 50 years old, is the mother of a number of children, and, aside from a single attack of jaundice when thirty years of age, enjoyed good health up to twelve years ago, when she lay many weeks abed with a severe febrile attack diagnosed as typhoid fever. She noticed at the same time the appearance of a well-defined tumor in the right hypochondrium. Since this time she has always been a sufferer with abdominal pains, indigestion, and constipation. The pains, although not located in any particular spot, were very definitely referred to as arising from the right side.
She suffered from menorrhagia two years ago, for which I was called in consultation by Dr. A. K. Minich a year ago. After dilatation and curetting, and a course of arsenic prescriptions by Dr. Minich, this disappeared, and she improved very markedly in every way.

Last January (1889) I was again called in consultation by Dr. Wintter to consider the nature of her abdominal complaint.

The lobes of a distinctly enlarged liver, also displaced downwards, 10 centimetres below normal, with a gall bladder greatly distended, elastic, and projecting far beyond its fissure, were easily detected, and the diagnosis of obstructed gall bladder made.

I operated on the 28th of January, in the presence of Dr. Wintter, assisted by Dr. Hunter Robb. As the liver was freely movable, and the gall bladder lay 3 cm. to the right and 4 cm. above the navel, an incision 4 cm. long was made in the linea alba. It was found to be a large, tense cyst about 13 cm. in length. Upon palpating the rest of the abdominal viscera through the opening, I found extensive mesenteric, small-intestinal, and colonic adhesions, made up partly of the union of broad surfaces and partly of sharp bands from 4 or 5 to 10 cm. in length. These were all carefully separated and broken up by the fingers used as a wedge between the broad adhesions, and bringing the sharp bands into view when they were cut. The oozing which followed this separation was but slight. The next step was to suture the gall bladder to the abdominal wall, so as to expose a part of its surface for subsequent incision. This was done by means of a series of fine interrupted silk sutures about an eighth of an inch apart, introduced so as to catch up the serous and subserous coats of the bladder and the visceral peritoneum.

The completion of the operation left a small wound, at the floor of which lay exposed a part of the gall bladder, 3 by 1½ cm. The whole operation lasted ten minutes. Iodoform gauze was placed in the wound, and absorbent cotton and bandage over the whole. On the third day the dressing was removed and the exposed bladder opened in its length by Paquelin's cautery knife. About 300 gm. of clear, sticky fluid like synovia escaped. On the fifth day I removed one hundred and six gall stones of varying size by means of a pair of small stone forceps. Three days after forty more were removed, and on the eleventh day forty-two stones more appeared. A stillicidium of fluid commenced with the opening of the bladder and lasted eighteen days, when the wound closed. The length of the gall bladder, measured by a sound, was 11½ cm. On the twelfth day she sat up, and on the twenty-sixth day she went home. The relief following the operation was perfect. She had no more pain, recovered her appetite, and became bright and cheerful in disposition.
DR. GEORGE E. SHOEMAKER reported a case of
PUERPERAL SEPTICEMIA.

Operation not indicated. Autopsy.

Because of the interest which attaches at the present time to the question of the place of laparotomy in the treatment of post-puerperal trouble, this case is reported. It is one in which the question of operative interference was weighed and decided in the negative correctly, as was shown by the autopsy.

B., aged 26 years, Irish, having had one child with indefinite history of after-trouble at that time, was delivered, April 23d, of a small male child before full term.

At five and one-half months she had had a free hemorrhage from the vagina, which was stopped under another practitioner's care. Three days prior to the labor, while asleep in bed at 3:30 A.M., she was again seized with free bleeding. She sent for another practitioner, who gave ergot, and the hemorrhage ceased. There was no pain, and the ergot did not bring on labor. Just forty-eight hours later, while again asleep in bed, another free hemorrhage occurred, again without pain. Several hours later, or two days after the first hemorrhage, the writer was called.

The bedclothing, body linen, and mattress were much soiled by large quantities of dried blood. The vagina contained considerable offensive clot, the os was dilated to the size of a half-dollar and was occupied by clot, the pains were absent, the child living and presenting L. O. A. The margin of the placenta was easily felt posteriorly and to the right, so that, as might be expected from the history, there was partial placenta previa.

Efforts to remove the septic surroundings were begun at once. The nurse in attendance, ignorant and unclean, with a suppurating skin eruption in the palm of the hand, was discharged, and a trained nurse obtained from that admirable charity, the Visiting Nurse Society. Soiled clothing was removed, a vaginal bichloride-of-mercury douche given, the matted pubic hair cut off, and the patient's body and hips thoroughly bathed in 1 to 1,000 sublimate solution, this being a greater strength than would have been used but for the decomposition. All this was several hours before the labor terminated; and from a time at least four hours prior to delivery, strict antisepsis was maintained by the free use of mercurials on hands and about the patient. It was too late: the decomposed blood had poisoned the system before delivery—a clear case of ante-partum infection. Hemorrhage did not recur, so that no measures were necessary for its arrest after the writer assumed charge of the case. It was the intention to perform version at once on its recurrence, as much blood had been lost and the child was weak. The labor terminated spontaneously without complications, the child being alive and the mother in fair condition, though with apparently some rise of temperature. Unfortunately the thermometer was not used. A 1 to 4,000 bi-
chloride-of-mercury hot intra-uterine injection was given immediately, but the temperature rose above 103° eight hours later; that is too soon for post-partum infection under the circumstances. There was, however, no tenderness over the uterus, no pain, no sign of peritonitis, and no abnormal odor to the lochia, which were apparently normal. Another 1 to 4,000 bichloride injection was, however, carried into the uterus, and the treatment with quinine and whiskey begun, which lasted throughout the case. Epsom salts, 3 ss. hourly till the bowels moved, disturbed the stomach without improving the general condition later.

There was no decided change for four days; the fever reached about 103° in the afternoons, but the stomach acted well and the strength was fairly maintained. The lochia were without abnormal odor and of fairly natural appearance till the end of the second day, when the injections were stopped, to be resumed later on the appearance of slight odor. There was at no time any great tenderness about the uterus or over the abdomen, which remained soft and undistended. As the case progressed, no definite local complications appeared. There was no uremia and no sign of mercurial poisoning; the bowels acted well. On one occasion a considerable swelling occupied the abdomen in the median line below the umbilicus. At first glance it was supposed to be the uterus distended by clot, but when light pressure by the hand was made upon it, much to the writer's surprise the swelling at once and permanently disappeared, while at the same time there was an audible escape of gas, probably from the vagina.

From the patient's mental condition, exact information was not obtainable, and there was no opportunity to repeat the experience. Was this physometer? The pelvis was repeatedly examined, but no accumulations could be felt. There was evidently no considerable amount of necrotic material in the uterus, for the discharges did not indicate it. There were no symptoms of peritonitis at any time, and, in spite of the fixed determination of the patient to die, the outlook was fair until after the fourth day. From this time till the eighth and final day the progress was downward. The temperature became 104° in the afternoons, with violent active delirium, obstinate insomnia, and profuse perspiration, especially at night. The stomach and intestines remained in fair order, but the nervous condition was very bad.

The temperature rose on the morning of the eighth and final day to 106.6°, and the patient died of exhaustion. No attempt at laparotomy was made, because none seemed indicated in the absence of peritonitis or any sign of definite pelvic trouble. With the utmost difficulty, permission was obtained to make an autopsy, the husband being present to see that nothing was removed.

Autopsy twenty hours after death. Rigor mortis; emaciation; abdomen very slightly distended. Abdominal cavity contained
the usual amount of serum, which was pinkish red, not turbid; contained no flocculi, but simply stained muslin without leaving residue. No sign of lymph exudate or pus. Peritoneum and intestines pale and smooth, without any adhesions and without hemorrhagic spots. Intestines not overdistended. The uterus, as large as a large fist, was distended by gas, and when compressed remained collapsed like a bag. It was pale bluish white in color, incision showing the walls to be about one-third of an inch in thickness; the cavity empty of all fluids. A pinkish red, thin, transparent coating of mucus covered the lining membrane. This mucus was not abundant enough to flow—simply a coating. It was examined under the microscope, and found to contain no pus, but to be made up largely of epithelial cells of various ages, showing very marked fatty change. The large amount of fat was remarkable. It was not extraneous, as no lubricant could be obtained for use on the hands. The left tube was of the size of the little finger, and when first touched apparently contained gas like the uterus. It collapsed with handling, but no liquid could be found in the uterine cavity which could have been squeezed from it. It was not adherent, and when delivered with the ovary through the abdominal incision and incised did not look unhealthy and contained no fluid. The right tube was smaller and contained no gas. It was adherent to the uterus and the right side of the pelvis by old adhesions, but was delivered with the ovary through the abdominal incision, incised, and found empty. Both ovaries were of normal size, the tubes of a bluish pink, and pale, like the other organs and peritoneum, from loss of blood. No collection of pus or any size of infection, removable or otherwise, could be found in the abdomen or pelvis. Other portions of the body were not examined, owing to the exigencies of the post-mortem. There had, however, been nothing to call attention to them. The cause of death, then, was general septicemia, with no continued source of infection near the point of original departure.

The question of the treatment of post-puerperal septic conditions by abdominal section, as suggested and practised by Mr. Tait and others, is one of great importance. The reports of successful cases demonstrate beyond doubt that in laparotomy a new and very valuable means of combating some forms of a fatal disorder has been developed.

Just now we are in need of more definite clinical knowledge as to when the belly should and when it should not be opened. Where peritonitis persists, the profession is rapidly reaching the conclusion that laparotomy increases the patient's chances, or, if there is a distinct purulent collection, that it affords almost her only chance.

Whether pus is to be found in the peritoneum, in the tubes, or in the connective tissue, whose intercellular spaces are continu-
ous with the lymphatic vessels, its removal, followed by drainage, is unquestionably indicated. Where the uterus itself is infected to such a degree that the local use of dull curette and antiseptic douche will not remove the source of infection, there is nothing suggested which is more promising than hysterectomy, though in practice this is likely to prove disappointing from prior general infection. It must not be forgotten, however, in these days of readiness for operation, that there are cases, such as that here reported, where there is early a general infection, not from pus, for there is none formed, nor yet from any remaining focus of infected material: and where it would be just as useless to incise the peritoneum or remove tubes as to remove the stomach hours after a poisonous dose of atropia. There are some cases in which, if they go on long enough, abscess may form late, especially from emboli where phlebitis exists; but the pus may lie in lung or brain, as well as in more accessible localities, and the hope of recovery does not lie in laparotomy.

What is demanded, therefore, in each case is a careful study of that case by itself, and repeated examination for foci of infected material. When these are found, they should be removed, if accessible, at the earliest possible moment, and by any safe means which will thoroughly do the work.

DR. WILLIAM H. PARISH.—The question of laparotomy for septic infection accompanying or following labor is one of great importance. Doubtless many errors have been made in not opening the abdomen, while against this is the fact that at the present stage of abdominal surgery we should be on our guard that we do not go to the other extreme and open the abdomen, in cases of septic infection following labor, when the operation is not indicated. It has so happened that in an acquaintance with the Philadelphia Hospital extending over fifteen years, I have seen a goodly number of autopsies in cases of septic infection after labor. I have seen few instances in which the autopsy showed that laparotomy would have been of any special value. Where there has been a pus accumulation without fatal general septic infection preceding it, and that pus cavity is so located that it can be opened and drained or entirely removed, the operation is a proper one. If there is reason to believe that there is an accumulation of pus in the peritoneal cavity, it will be right to open the peritoneal cavity and remove the pus, provided the woman is not in a moribund condition. There are, however, cases in which the purulent peritonitis develops very late in the history of the case. There are not a few instances in which the septic infection, as it has extended from the uterus, shows its local effects in the lymphatics, and the fatal result is probably determined before the peritonitis takes on very active form. I am sure that I have seen this occur. In an endemic in which twenty or thirty autopsies were made, we found the peritoneum in various stages of inflammation. Cases that died early showed inflammation of the lymphatics and the formation of pus in the lymphatics, particularly of the broad ligament and uterus, with swelling of the areolar tissue and degeneration of the peritoneum. In other
cases, the condition was more advanced, with the formation of lymph and flocculi and turbid fluid in the peritoneum. In other cases, where the patient lived still longer, we found a larger quantity of purulent-looking fluid. I believe that if these cases had been operated on, the result would not have been favorably influenced. In fact, I think that in some the fatal result would have been promoted by operation. It requires more judgment, and I think probably more skill, to determine when the abdomen should be opened in these cases than to do the operation.

I have in a few instances opened the abdomen after labor, and, as I think, have thereby saved the patient. It has so happened that in all the cases in which I have opened the abdomen after labor the pus has been in the areolar tissue of the pelvis. These cases have recovered. I have not operated on a patient after labor who has not recovered. I do not recall a single instance of pus in the tubes. There was a limited quantity of thickened fluid, but nothing like pyo-salpinx. I think that this is rare, especially in endemic septic infection.

Dr. J. M. Baldy.—I agree with Dr. Parish in regard to the difficulty of deciding which of these puerperal cases are subjects for operation and which should be let alone. At one time I thought that it was rather easy to distinguish, but as cases came one after another into my hands, I found it extremely puzzling to know what to say. If there is pus in the tube, which I found in one case, it is easy to settle the question. It is often difficult to say whether or not there is pus at all. In the vast majority of cases in which I have been asked to decide for or against operation, I have advised waiting, and all of these cases have recovered, showing that there was no pus. If you can make up your mind positively that there is pus or purulent fluid, there would be no question as to the advisability of operating. I should not wait because the woman was far gone, in the hopes of bringing her up. I think that the pus is at the bottom of the trouble, and that the only way of saving her is to stop its absorption at once by removal. The great difficulty is to decide whether pus be present or not, and it requires caution, or we shall be led into many operations which will be unnecessary.

I think in the case of Dr. Shoemaker that the question of operation would not have come up at all. It was not a case of puerperal peritonitis, nor were there symptoms of local trouble. From the report I can see no indications for the use of the knife. I think that this was clearly a case of absorption of ptomaines, and in such a case there never would be formation of pus.

Dr. M. Price.—I have had rather an unfortunate experience with this operation. In three cases that I have had there has been persistent vomiting. For days there had been fever and quickened pulse and a well-marked chill. Upon examination there was unquestionable evidences of pelvic inflammation. In one case tubal trouble was well marked, and the uterus could be mapped out from the tubes. In this case the operation was performed on the eleventh day, after it had been determined that the woman had peritonitis. Three pints of pus poured out. The pus had burrowed up behind the kidneys on either side. The case was fatal.

The second case was one of criminal abortion, where the girl fell into Dr. Musser's hands at the last minute, and he sent her to me. Within six hours I operated and found three pints of pus.
No well-marked tubal trouble could be found. All the surroundings were in a semi-gangrenous condition. The patient died.

The third case was seen a few weeks ago. The pelvis was as solid as if it had been frozen. She had a chill and the broken tea-leaf appearance of the vomit. She finally consented to an operation, and, on opening her, from one to two pints of pus escaped. Nothing was done but to open the belly, break up the inflammatory adhesions, wash out the cavity, and use drainage. In these cases, I think that early operative procedure would have given the patients a chance for their lives. If I were to-night to see a case of septic peritonitis where there had been a chill, some distention of the bowel, a fixed condition of the uterus, I should not hesitate longer than to obtain my instruments.

Dr. J. Price.—Dr. Parish has selected his cases well; he has not made any mistake; he has operated in suitable cases, and others he has permitted to die because any operative interference would simply have hastened death. In all the cases in which we have operated, we have been able to place our fingers on something before operating. The cases reported by my brother were all dying. It is unfortunate for surgery that we should be forced to operate on a dying patient. A large number of puerperal cases have been saved. Dr. Baldy has saved two cases. I have had a number in my own practice. Dr. Bernardy has had one, and I could cite a number of other cases. In none of the cases cited by Dr. Parish did he put his hand on anything on which to operate, and he cannot cite a single case in which he opened the abdomen when he should not have done so.

Dr. W. H. Parish.—I wish to add one word in regard to operating when the conditions seem to be fatal. I did not mean to say that I would not operate on an abscess, believing such to be present, when the patient is very ill. In one instance I removed one and a half gallons of pus from a patient in a condition of extreme emaciation and almost ready to die. She is now well. I should hold off from operating in a case in which the blood-poisoning was so great that there was no possible hope for recovery. Where there is an encysted abscess, the patient will live a long time; but in endemic diseases with dense septic infection, the patients, even when first seen, are often so ill that exploratory incision would certainly not be a proper thing to do, inasmuch as it would add to the mortality following surgical operations and deter others from operating and other patients from being operated upon. If there is reason to believe that there is a pus cavity, I should operate if the patient was almost in extremis. Where, on the other hand, blood-poisoning was the main trouble, I should not open the abdomen as a matter of exploration.

Dr. Joseph Hoffman.—There is one point in connection with the case of Dr. Shoemaker to which I would call attention, and that is the use of the bichloride and the absence of odor. It seems to me that the absence of odor must have been due to the bichloride. The statement that there was no odor is perhaps a little too wide, inasmuch as disinfection was used persistently. It seems very evident that the case was one of general septicemia from the preceding dirt, and that the peritoneal condition was only an incident to the general systemic poisoning. I have seen one case die from general peritonitis in which there was pus, but in which the symptoms appeared only on the eighth day, the patient succumbing on the tenth day.
The President.—How do you explain the physometra?  
Dr. Geo. E. Shoemaker.—I did not assert that there was physometra. I only asked if the escape of air from the uterus or vagina could have been so explained. If there was gas, it was probably the result of decomposition. There was no peritonitis at any time. When I say that there was no odor to the lochia, I mean no abnormal odor, except at the time mentioned, when there were indications for disinfection.

I would like to call attention to one difficulty in the diagnosis of post-puerperal pelvic abscess. Over a year ago I had a bad case of septicemia in a woman who had been delivered by another gentleman. She developed on the left side of the uterus a decided sense of resistance, and a tumor apparently the size of the fist and tender on pressure. The temperature was 105°–106°, and there were profuse sweats at night. I felt very solicitous as to whether or not there was pus. The enlargement proved to be a fecal mass, which purgatives removed in a few days. No operation was performed, and to-day there is not a healthier woman in the city.

Dr. J. Price presented specimens with the following remarks:  
I asked Dr. Penrose for

A LARGE FIBROID WITH CYSTIFORM DEGENERATION
to present in connection with a large myoma. This case demonstrates a point from a pathological and from a therapeutic and electrical point of view. It was the clearest case for diagnosis that I ever saw. The woman was 46 and the tumor ten years in developing. Last year there was almost constant bleeding. There was rapid development, with faint fluctuation at points. It was one of those tumors of which Atlee gives five in his three hundred and seventy-eight ovariotomies. It was generally adherent, and the doctor tapped it to reduce its size, that he might deliver it through a smaller opening. He found between the uterine cavity and the cyst a membrane as thin as the amniotic membrane, with vessels as large as the finger. If in such a case any one had passed an instrument, he would probably have lost his patient on the table.

I have here a soft myoma, which is probably one-half the size that it was when removed. It extended high up to the diaphragm. It was of rapid development. It is a true myoma—an edematous myoma. The patient was 29 years of age. On the left side posteriorly I could feel bodies, independent of the tumor, which moved with the cervix. I was satisfied that it was a myoma, yet it did look like one of those ovarian tumors with solid contents, and these solid bodies posteriorly. On the right side is a small blood cyst, perhaps the size of a hen's egg. The shrill and aneurismal noises on the right side posteriorly were very curious. On vaginal examination, it was the most marked that I ever felt. When I came to operate I feared to pass the needle so deep, and ventured to shell this ovary out. The vessels were as large as the iliacs.

These two cases demonstrate to me the uselessness of electricity
in many of these cases. It seems to me to be about as probable that we could act upon the primitive iliacs or aorta by electricity as that we could influence vessels the size of the finger in this tumor. This was an extra-peritoneal, supravaginal operation. The operation was quite simple. I removed the tumor well down to the wire to prevent overlapping, and stitched the stump as is done by Bantock. The last operation was done on Tuesday. That of Dr. Penrose was done a month ago.

I have here a small ovarian cyst which some would call an intra-ligamentary cyst. I have some doubts as to the nature of intra-ligamentary cysts. I look upon them as pelvis bound by adhesions. They have been tapped and pelvic adhesions formed. In such cases I have had to begin at the incision with the knife, and sometimes to finish with the knife. The tumor was covered by adhesions. It was on the left side, pressing upon the bowel, causing difficult and painful defecation. She had had attacks of pelvic inflammation. There is here a small blood cyst as large as a walnut. I dreaded to tap it, fearing that it contained that sebaceous, putty-like material of dermoids which is so difficult to remove. The patient has asked me to preserve the tumor, and she has bought a jar in which to place it.

I have here a doubtful specimen. It may be a hemato-salpinx or it may be a tubal pregnancy. It was removed by Dr. Penrose. There is no semblance of a pavilion.

Some time ago I had a case in which the placenta and clot was in the cornual extremity. When I removed it, a rose-shaped clot, as large as a good-sized rose, protruded from the pavilion extremity. Here the abdomen was filled with blood. This woman had had pain and had hemorrhage recurring from time to time.

The history in the case of Dr. Penrose just referred to was that the woman had been married four years, but had never conceived. She was at this time living as a domestic. She was examined at the dispensary and sent to my office the same evening, the suspicion being that it was a case of extra-uterine pregnancy. There was a delayed period. She had had agonizing pains, which had recurred, and she had been in bed several days. I at once sent her to the hospital. There was constant vomiting for the next four days. Aside from this there were no alarming symptoms. The operation was postponed for four or five days, until the nausea entirely subsided. As matters stand now, the woman is reacting nicely, there is no nausea, and she is doing well. It is curious how we reason about these cases.

In regard to these fibroids, we are now guided largely by the size of the tumor and its character. In myoma the removal of the appendages is, in my opinion, simply useless at any period; and in these large fibroids with nodules and probable extension into the uterus, and where degenerative changes have taken place in the uterine wall, I believe that it is about as useless.
In regard to extra-uterine pregnancy, I would call attention to two or three cases on record, and to the uselessness of electricity, and to some points in diagnosis. Bantock recently removed a ruptured tubal pregnancy on one side and a pyo-salpinx on the other. In that case it would have been impossible to make any refinements in diagnosis. Dr. Eddis exhibited to the British Gynecological Society specimens of recent operations. One was an ovarian cyst the size of a hen's egg, and above this the right Fallopian tube was enlarged about the size of a small walnut by an extra-uterine pregnancy. This had ruptured at the other end. This case was a typical one, and illustrates very beautifully how common it is to find a mixed condition of affairs in the pelvis. Such has always been my experience. When we open the abdomen we do not know what we are going to find. We may not have the slightest suspicion of extra-uterine pregnancy, and yet, in many cases, as has been demonstrated in this town, find one.

It is common to find small blood cysts, and these small tumors contain peculiar little bodies. These small blood cysts often look like extra-uterine cases, but many of them are not.

Dr. William Goodell.—In regard to the treatment of the pedicle in simple hysterectomy, I have had within the last two years at least a half-dozen cases, and in some the tumor was very large. One weighed over thirty pounds; another weighed forty-six pounds, and the abdominal incision in this case was the longest I ever made. The pedicle was a little larger than my wrist. In these cases I have ceased to use the extra-peritoneal method, but have dropped all the pedicles, and all the women have recovered. I transfix the pedicle with a double ligature and tie on either side provisionally. Then the tumor is cut away and the pedicle is scooped out so as to be funnel-shaped. Each ligature is now untied, its free ends wrapped around the handles of two forceps, as a purchase, and retied as tightly as possible. I then close up the cup-shaped cavity by sewing the peritoneal edges together. In the last case I did this with the continuous silk suture. In one case I used catgut, but in all the rest silk. All the cases have recovered as promptly as after a simple ovariotomy. Unless the pedicle were of extraordinary size, I would in future resort to this method, for convalescence is far more prompt than with the extra-peritoneal method. In these cases I have not used the drainage tube unless there were adhesions. In the case of very large tumor, the adhesions were so formidable that the woman came nigh dying on the table. In this case I used the drainage tube, but in most of them I did not.

Dr. Joseph Hoffman.—I thought that Dr. Price would have referred to a case of my own in which there was extra-uterine pregnancy and pyo-salpinx. The diagnosis could have been made had not the woman's condition been so critical that it was not necessary to go into any refinements.

In the case of fibroid tumor shown, the belly, previous to operation, was certainly as large as at a seven months' pregnancy. In reference to the blocking-up of the intestines, I removed three weeks ago a tumor two-thirds the size of the one shown. The woman gave a history of pain in the side ever since
menstruation, and pain and trouble in defecation so great that they could only be explained by adhesions. The tumor was not large enough to make sufficient pressure to cause such trouble by its weight alone. She had suffered so long that I expected to find a dermoid cyst. The question to my mind was whether this had been developing for a long while, was still growing, or had grown so far and stopped.

I do not think that if Dr. Price had the experience that I have had in the last few days he would give his specimens to patients. An attempt to blackmail me was made by a woman to whom I gave a specimen. She took it to another doctor, who encouraged the idea that nothing had been wrong and that the operation was unjustifiable. This was one of the most severe cases that I ever attempted to deal with. The adhesions were so great that I had to use a drainage tube for two weeks.

DR. J. PRICE.—In regard to the treatment of the pedicle, at a discussion before the American Gynecological Society at New York, Dr. Bantock and Professor Martin had the opportunity to present the relative merits of the two methods of treatment, and I think that Dr. Bantock demonstrated to the satisfaction of the Society that the extra-peritoneal method was the better one. We are inclined in all work to follow successful operators. I am glad to hear Dr. Goodell state that he has been so successful with the intra-peritoneal method—much more so than Professor Martin and others; Professor Martin's mortality from hysterectomy is still high. Dr. Bantock's is down to twelve per cent to fourteen per cent. Mr. Tait has had a run of thirty-two supravaginal amputations without a death. Mr. Keith lost three in thirty-eight or forty. The three most successful operators in the world are Bantock, Keith, and Tait. They are all three working with a mortality less than fourteen per cent. This is about as low as Meredith Thornton in ovariotomy. Many cases such as Dr. Goodell mentioned are quite tempting. In my case the pedicle was larger than the wrist. I screwed up the clamp five times, and each time I thought that it was quite tight. I have never lost a simple hysterectomy. I have lost two with cancer. In both the disease had invaded the bowel, and I do not see that it would have been any advantage to them to have gotten well.

In regard to drainage, that is still a disputed point. After dropping the pedicle, Professor Martin pushes a rubber tube up through the vaginal vault. While he does not approve of drainage from above, he does from below. Mr. Bantock drains largely where there are adhesions. For myself, nothing would at present shake me in my views in regard to drainage. In my first series of one hundred cases, I drained in forty-six per cent; in the next, I drained in over fifty per cent.

Dr. H. M. Weeks reported

A CASE OF OVARIOTOMY.

In October, 1888, a case for operation was placed in my charge. The history of the case was briefly as follows: Less than a year (about ten months, as near as the patient could remember) before I saw the patient, she was seized with a sharp pain in the right ovarian region. A physician was called, who diagnosed an acute attack of inflammation of the ovary. Anodynes were freely
given, hypodermically and by the mouth, and a blister applied over the seat of pain. The pain still continuing, and the patient growing weak and losing flesh, the physician in attendance was dismissed and another called, who diagnosed an abscess, and treated the case for some time with anodynes, counter-irritation, and fermentation. Then was discovered a slight enlargement of the abdomen, which seemed to confirm the medical man in his opinion of an abscess being present, and he decided to await developments. In the meantime, the case passed into still other hands, and this time the physician, upon his first examination, found a tumor in the pelvis, which, however, he was never able afterwards to find. The pain gradually grew less, and, though the patient was weak and did not regain her flesh nor her usual health, she resumed her household duties, noticing more and more the enlargement of her abdomen upon the right side.

About three months before I saw her she was taken with symptoms upon the left side identical with those which initiated the trouble upon the right side. Dr. H. W. Coleman was now called, and after a careful examination diagnosed an ovarian cystoma of the right side, and commencing trouble of the same kind upon the left side. The doctor advised an operation, and requested that I be called into the case.

Upon examination I found a large tumor high up in the right lumbar region, not very freely movable, and from the vagina it could not be reached by bimanual examination with as much force as was bearable by the patient. Upon the opposite side there could be plainly mapped out an enlargement in the iliac region about the size of a cocoanut. By the vagina this mass was found to be firmly adherent, and filling the entire left side of the pelvis, pushing the uterus forward and to the right of the median line. I gave it as my opinion that there was on the right side an ovarian tumor with long pedicle, and adherent to the abdominal walls and contents above—which accounted for the want of mobility, and also for the height of the tumor in the cavity—and that the mass occupying the left side of the pelvis was a cyst of the left ovary bound by pelvic adhesions. As the patient was in a fair condition as regarded her general health, and was anxious to be relieved of her suffering, I advised an operation as soon as practicable.

The patient was placed in my private hospital, prepared for an operation, and upon the 19th of October, assisted by Dr. Charles B. Penrose, of Philadelphia, I opened the abdomen by an incision about three inches in length between the pubes and the umbilicus in the median line. A considerable amount of dark fluid escaped from the incision upon opening the peritoneum, and after separating the omentum, which was adherent to the pubes, I began to release and deliver the mass upon the left side, which was found to consist of a multilocular, papillomatous ovarian
cyst, firmly bound by adhesions to uterus, bowels, and pelvic walls, and also an intra-ligamentous cyst. Everything was firmly adherent, and the bleeding so free from some of the points of adhesion as to require ligatures to be used freely, styptics failing to control hemorrhage. It was found necessary to increase the size of the incision to about five inches in order to complete the enucleation and deliver the mass, a portion of which could not be separated from the pelvic wall, and was therefore left behind. I now turned my attention to the large cyst of the opposite side—a multilocular ovarian cystoma. This was found adherent to the abdominal wall, the colon, and everything with which it had come in contact. Adhesions were separated as rapidly as possible, the trocar introduced, and as much fluid as possible evacuated, when the hand was passed in and the smaller cysts broken up, and the whole mass brought out through the incision. A ligature was thrown around the pedicle, which was about five inches in length, and after cutting away the mass the stump was dropped back. The abdominal cavity was thoroughly cleansed by irrigation, a large amount of water being left in the cavity on account of the weak condition of the patient, due to shock; a drainage tube was placed in the incision, and the abdomen closed in the usual manner. The patient was placed in bed greatly exhausted and profoundly shocked, from which she rallied in about twelve hours, and went forward to recovery without an unpleasant symptom. The patient and her family were informed that there would probably be a return of the trouble, owing to the nature of the tumors removed, and in view of the fact that a portion of one of the cysts could not be gotten entirely away.

The latter part of March last, five months after the operation, the patient called at my office to consult me about a pain in the left side, and about an enlargement of that side.

Upon examination I found a tumor about the size of a fetal head occupying the left side of the pelvis, firmly adherent. I advised another operation, at the same time explaining to the patient and the family that it might not be possible to remove the growth, and, if so, only an exploratory operation would be done, but if possible the tumor would be removed; with this understanding an operation was consented to. The patient subsequently passed into the hands of Dr. J. M. Baldy, who operated.

There were some points in connection with the case that may be of interest, which were not known to me at the time of my taking charge of the case, nor until after she was discharged from my care. The patient had lost a sister, an aunt, and a cousin, all with cancer.

Another point in the case was the age of the patient. She gave me her age as 49 at the time of the operation, and when she came to me again in March she told me she was 50. In this connection, it may be proper for me to anticipate Dr. Baldy some-
what, and state that the patient died of cerebral apoplexy on the 29th day of April, and her age was published as 52 years; but I am informed by very good authority that it was, and always had been, a propensity of this woman to make herself as young as possible, and that she was in reality not a day less than 60 years of age.

Dr. J. M. Baldy reported the following history:

The subsequent history of Dr. Weeks' case of

MALIGNANT PAPILLOMA

is reported for two reasons: because of the unique ending of the case, and for the reason that we have need of the history of deaths more than of recoveries at present.

I saw this patient some three or four months after the first operation, and found the condition present very much as related by Dr. Weeks. At the operation which followed, the old incision was found perfectly united. No adhesions to the abdominal wall by intestines or omentum. Tumor as large as child's head and filling the pelvis. The intestines and omentum were adherent over its entire upper surface, excepting at one point as large as a small orange. The cyst was undoubtedly intra-ligamentous and not simply bound down by adhesions. It was composed of smaller cysts, many of which were ruptured in the enucleation. It was too low down and too universally adherent to allow of an attempt at tapping it, and the rupture was unavoidable. It was altogether the most difficult and trying operation I have ever attempted. After its removal there was but one point which was not ragged, showing the condition of universal adhesion. There was no pedicle, and only at two points were adhesions tied. These points might have been dealt with differently, but were tied to spare time. Patches of intestines as large as one's hand were denuded of their peritoneal covering. There was considerable oozing when the abdomen was closed, but, as the patient was doing badly under ether, the drainage tube was trusted for controlling this, and in a few hours it had all stopped. Irrigation with simple hot water was freely used. She was in bed within the hour, and soon reacted from the anesthetic. For five or six days she progressed splendidly, and would probably have continued to do so, but the drainage was prolonged beyond all use and the track became affected. There was a quick rise of pulse and temperature, which subsided as quickly within twenty hours on the discharge of a few spoonfuls of pus. She then improved steadily, and was considered almost well; in fact, was to have gone home the next day. On the seventeenth day she was feeling better than she had for years, had slept soundly the night before, and had eaten a large breakfast with relish. She was laughing and joking with her nurse, when she suddenly gave a start, became unconscious, and was dead within twenty minutes.
At both operations she had behaved badly under the anesthetics. The cyst was of a malignant, papillomatous character.

The post-mortem examination revealed the following: Union along line of incision perfect. Omentum adherent to abdominal walls to the left for an inch; to the right, the intestines were adherent over the brim of the pelvis and to the drainage track; at the bottom of the drainage tube was a small quantity of pus. Pelvis perfectly smooth and clean. Spleen normal. Liver normal. Kidneys normal. Heart fatty, infiltrated. The right side dilated with a chicken-fat clot; left side, the walls were thinned. The mitral valves had undergone calcareous degeneration. Brain: about two ounces of fluid in the arachnoid cavity; cerebellum soft. In the fourth ventricle a small vessel was found ruptured, and the ventricle was filled with a blood clot. A piece of calcareous plate was here found.

This clearly indicates the manner of death. It is possible that the action of the heart under the anesthetic may have loosened the calcareous plate on the mitral valve, and thus been the cause of death some time sooner than would otherwise have occurred. In no other way can the death be attributed to the operation. It is unfortunate that the accident did not delay a few days longer, but then I suppose the friends would have said we moved her too soon.

It is a matter of surprise to me that there were no more adhesions than the autopsy disclosed, the denuded surfaces had been so extensive. Had the trouble with the drainage tube not occurred, the patient would have been home when she died; but there are some things we cannot control, and the unnecessarily long drainage here is a case in point.

Dr. J. B. Deaver exhibited a

**LARGE MULTILOCULAR OVARIAN CYST.**

The patient was from Maryland. There was considerable ascitic fluid. There was a large tumor on the left side containing colloid material. The woman had suffered considerable pain. There were also papillomatous contents, and malignancy was suspected. A smaller tumor was removed from the right side.

Dr. M. Price exhibited

**A SUBSTITUTE FOR SENN'S PLATES.**

This is simply a transverse section of the femur of beef, which has been decalcified. It is used in the same way as Senn's plates. The openings in the transverse section are across instead of on the plane of the surface of the bone, and absorption will take place more rapidly. The advantage over the Abbé ring is that this holds its form, while the catgut ring is liable to twist and give some trouble in its application. These plates are being used by Dr. Deaver and my brother upon some dogs, and later they will make a report of their observations.
Dr. H. M. Weeks exhibited

**AN ANTISEPTIC LIGATURE BOX.**

This box is presented to the profession for preserving and carrying ligatures that have been prepared and rendered aseptic or antiseptic, enabling the operator to cut his ligatures and suture, at the time of operating, without danger of soiling or infecting the portion not required for immediate use. It is made of a fine quality of earthenware, thus securing strength and durability; at the same time it is light, compact, ornamental; and last, but not least, it can be furnished at a price that will enable every one practising surgery to provide himself with one or more. The box can be had in any color desired, or with any decoration the consumer may wish.

The accompanying cut represents the different parts as follows: The box is round, four inches in diameter and two inches high, with an outside cover, No. 3, that is held in position by a neat clamp, No. 1, which, when adjusted, is prevented from slipping by a slot on either side of the band or flange at the top of the box, the screw holding the cover tightly down upon the rubber washer, No. 3, which encircles the top, and renders the box absolutely air
and fluid tight, so that the ligatures can be carried constantly in any solution desired without danger of leakage.

The inner cover, No. 5, is a flat disc with a slot cut in the edge to allow it to be placed in position, and held by two small catches placed on opposite sides of the box; the small knob in the centre serves to turn and place and remove the cover. There are four holes perforating this cover for the four sizes of silk generally used, and half an inch from the edge of the cover there is a raised band, also perforated, for the silk to pass, thus making it impossible for the end of the ligature to drop back into the box when cut. This cover rests upon a ledge, and is left in place except when necessary to fill the reels or spools with silk or the box with solution.

The reels or spools, No. 6, four in number, stand upright, and are held in position by separate spindles, No. 7. The whole box is highly glazed; there is no metal nor anything that can be acted upon by any solutions, and the material from which it is made can be subjected to any amount of heat, either dry or by boiling. It can be taken apart in a very few seconds, and every part thoroughly cleansed.

Should any of the parts break, they can be replaced, as they are interchangeable.

They may be obtained from J. H. Gemrig & Son, 109 South Eighth street, Philadelphia.

TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, June 21st, 1889.

The President, Charles T. Parkes, M.D., in the Chair.

Dr. W. W. Jaggard read the following notes on

I. A CASE OF FETAL APLASIA.

The monster whose photograph I present was recently delivered by my friend, Dr. W. A. Mansfield, of Metamora, Ill. Dr. Mansfield has written the following excellent account of the case:

The case of confinement in which I delivered the monster was one of twin pregnancy at about the seventh month. The mother was a multipara.

The normal twin died soon after birth.

The course of pregnancy was abnormal. Sixth to ninth week severe vomiting. From this time on, extremely rapid increase in the size of the abdomen. For three weeks before confinement.
patient could scarcely eat anything and was subject to severe attacks of dyspnea from pressure.

When I first saw the case, there was effacement of the vaginal portion, the os was fully dilated, membranes presenting. Head freely movable above the brim. Negative results from abdominal palpation, on account of excessive hydramnion. The membranes ruptured, and after four hours, the head having engaged and having ceased to advance, I gave the patient one-half drachm of the fluid extract of ergot and applied the forceps. With more than very moderate traction the blades would slip over the head. After a few trials, I brought the head down far enough to introduce a finger into the mouth (face anterior), and by considerable effort succeeded in delivering the body. The amount of liquor amnii that escaped I estimated at four gallons. The weight of the monster was ten pounds, that of the normal twin four and a half pounds. The placenta was single and the largest I have ever seen. It was fourteen inches in diameter and one inch in thickness. It filled a medium-sized chamber-pot. Altogether the weight of the uterine contents could not have been less than forty-five to fifty pounds.

The mother made an excellent recovery without complications.
The tendency to uterine atony immediately after labor disappeared under massage and ergot.

The length of the monster was 15 inches; vertex to pubes, 10½ inches; circumference of head above ears 11½ inches, at level of ears 13½ inches, below ears 15 inches; circumference, chest, 17 inches; pelvis, 10 inches. Weight, 10 pounds. All the tissues edematous. Lower extremities normal, except feet, which were clubbed and had but two toes each, great and second. External genitals, female, normal. No anus present. Right side of abdomen and right side of thorax occupied by a vesicular tumor, 2½ by 2 inches. On dissection, this tumor found to be of spinal origin, pedicle arising from the seventh cervical and first thoracic vertebrae. Sac continuous with membrane of cord and filled with cerebro-spinal fluid. The right arm is united to the right side of the abdomen. Radius and ulna the only bones present. Left arm adherent to thorax as far as elbow. Hand clubbed, with rudimentary thumb and two rudimentary fingers. Head bullet-shaped. Ears rudimentary; right ear contained no meatus; left meatus enters petrous portion of temporal bone. Both superior maxillae cleft. Palate cleft. Pharynx open, tongue rudimentary. Double fissure marks the position of the nose. Position of eyes marked by rudimentary eyelids, no trace of eyes being present. Trachea, thymus, thyroid, lungs, esophagus, stomach, spleen, pancreas, and liver, all absent. Umbilical vein entered directly the right auricle. Umbilical arteries normal origin from internal iliacs. Heart auricles well developed, and communicated freely. Right ventricle greatly hypertrophied. Left ventricle rudimentary, and opening into right ventricle. Entire length of intestine, 12 inches. At its blind end were two small kidney-shaped, glandular organs that weighed five grains each. Kidneys very large, 1½ inches by 1¼ inches by ¾ inch. Ureters as large as goose quills, emptied with intestine into a cloaca that occupied the normal position of the vagina. No trace of uterus or ovaries. Mesentery and peritoneum studded with little bodies like milky tubercles. On opening the skull, I found the membranes firmly united together, and to them attached a thin layer of brain substance. Cavity filled with cerebro-spinal fluid. Basal ganglia represented by about thirty grains of brain matter. No olfactory or optic nerves. Spinal cord in cervical region about one-quarter inch in diameter, and pinkish in color.

Remarks.—This case is of special interest as well on account of the monster itself as for its bearing on the vexed question of the causation of hydramnion.

The specimen, while rare, is by no means unique. It possesses many of the characters common to the acardiæi—it is the product of twin or multiple pregnancy, the placenta is single, the twin is perfectly formed and is of the same sex. On account of the presence of the rudimentary heart, however, this monster cannot be referred to any one of the three types that are commonly described—amorphous,
acormous, and acephalous. It appears to represent a transition form between the common acardiac acephali and the acranii. Boutin ("Dissertation," Berlin, 1817) describes a monster with head, trunk, and lower extremities, and cystic degeneration of the skin, in which the thoracic viscera, the liver and stomach were absent. Orth (Virch. Arch., 54, 1872) describes two cases of dimform acephalus, in one of which a rudimentary skull, two rudimentary lungs, and a rudimentary heart were present. The heart contained two cavities filled with coagula of blood; one of these cavities received the umbilical vein. In a third case described by Orth, a large heart without lungs was present. Förster ("Missbildungen des Menschen") describes a similar case.

The mode of origin of these cases of fetal aplasia is still the subject of controversy. Unfortunately, in the case I present, the relation of the vessels of the umbilical cords as to anastomosis was not investigated.

As to the probable cause of the hydramnion in this particular case, I beg to make a communication on some future occasion.

II. AN EARLY ABORTIVE OVUM.

This specimen is chiefly interesting on account of its age and history.

Mrs. W., multipara. Last menstruation began April 4th, and lasted four days. The perineum was torn through into the rectum, and she was under treatment preparatory to an operation. Her physician made applications of tincture of iodine to the endometrium on May 1st, 6th, and 8th. Menstruation corresponding to May was arrested, but slight bleeding was observed after the last application of iodine on May 8th, lasting until May 17th, when I saw the patient for the first time. The ovum that I present passed, together with a blood clot, painlessly out of the uterus. If the statement of the husband can be relied upon, the probable age of the ovum is about twenty-one days. Its size supports this view.

Of course the physician who made the application was ignorant of the fact of pregnancy, even thought it impossible with such a perineal laceration. It is needless to say he is perfectly blameless.

THE PRESIDENT presented the histories of four cases.

I. A case of vaginal hysterectomy done some six weeks ago for persistent hemorrhage. All the usual methods had been resorted to for the purpose of controlling the hemorrhages, such as curetting the uterus, applying the various remedies, repair of the cervix, etc., without producing any effect on the amount of blood lost, or on the size of the uterus which was considerably larger than normal. So finally I advised her, since she had passed her 45th year and was really losing her life with this loss of blood, to submit to an operation for the removal of the uterus. A vaginal hysterectomy was performed, attended with a great many difficulties owing to the size of the uterus. After it was removed, the entire upper portion of the
body of the uterus was found to be in a condition of epitheliomatosous degeneration.

Patient was discharged from the hospital, cured, June 15th, 1889.

II. A case of abdominal hysterectomy for a very large tumor which weighed about fourteen pounds immediately after removal. The case was of great interest, owing to the fact that examination of the tumor by myself and others left us very doubtful whether it contained fluid or not, or whether it was a single cyst or made up of a mass of cysts. Section through the abdominal wall showed a uterine tumor which had broken through the capsule at the upper end. It was particularly interesting to me for the reason that I met with the first accident I have ever had in my abdominal experience, of making an opening into the intestine. During this operation an opening was torn into one of the small intestines. I seized it immediately, and was sure that none of its contents escaped into the peritoneal cavity. After this delay I completed the operation. I used the extra-peritoneal method of controlling hemorrhage. This lady was in good condition till the fifth day, when she exhibited symptoms of obstruction of the bowel and died.

A post-mortem examination showed the wounded intestine to be completely closed; every suture was covered over except the end where the knot was. I have the piece of intestine and will show it. Not only did it hold gas, but, fastened to the hydrant, it held water. We found the left half of the pelvis, as divided by the elevation of the stump of the uterus from the floor of the pelvis to the abdominal walls, packed full of small intestines; and they were held firmly in that position by adhesions to the broad ligament. I do not believe this would have occurred if I had cauterized the stump of the broad ligament.

This is my fourth case of abdominal hysterectomy treated by the extra-peritoneal method, all of which have died.

III. A tubal pregnancy, about the third month, upon which I performed abdominal section. There had been quite a hemorrhage into the broad ligament. The tumor and the opening into the Fallopian tube were found without difficulty. I did not, however, find the fetus. The tumor consisted of the remnants of the placenta and amniotic sac. This all removed, I closed the opening of the cavity and packed the wound with iodoform gauze. The woman recovered.

IV. The sequel to an abdominal hysterectomy performed three years ago. The lady has had much trouble from the fact that the lower end of the wound did not close; six months after the operation quite a quantity of pus was discharged, and six months ago she had a serious difficulty caused by accumulation of pus and septic fever. Following that, a small abscess formed, and from this abscess one of the ligatures came out, two and a half years after the operation. The tumor was a large one, requiring a long incision, and the patient has quite a good-sized ventral hernia.

Dr. Jaggard.—In the case of tubal pregnancy, I would like to
ask whether there was a tumor that you could recognize by the vagina.

Dr. Parkes.—Yes, sir: it was very easily recognized. She was a lady of slight build, so that it could be determined very readily by bimannual examination. The rupture occurred a few days before the operation.

Dr. E. C. Dudley.—I desire to record

TWO CASES OF VAGINAL Hysterectomy.

The first operation was January 9th, 1889. The patient was 58 years of age. The subjective indication was frequent and very profuse flowing, with intervals of very free muco-purulent (not fetid) leucorrhea, during the previous sixteen months.

Examinations of repeated scrapings from the endometrium discovered unmistakable evidence of cancer. After the removal of the uterus, this cancer was microscopically proved to have extended almost through the fundus uteri.

Although the patient had suffered for years from rupture and relaxation of the perineum, yet I slightly divided the perineum to get more light and space for isolation of the broad ligaments. Immediate closure of the perineum thus divided resulted in perfect union. Four weeks later, the patient had trouble in walking, from sagging of the pelvic floor, from cystocele, and from rectocele, and asked me to do perineorrhaphy.

Upon examination, a small, soft, friable protuberance in the perineal scar, about the size of a hempseed, led me to fear a return of the disease at this point. Consequently, after thorough disinfection of the vagina and external genitals, I excised the growth, taking with it a wide margin of healthy tissue all around, and, afterhaving denuded sufficient surface to make a good perineum, completed the operation as a perineorrhaphy. The immediate object of the operation was explained to the family. The patient herself, however, still supposes that it was a perineorrhaphy pure and simple. The union was perfect, and the result was so satisfactory in the matter of support for the pelvic floor that she congratulates herself upon having persuaded me to close the perineum so soon after the hysterectomy. Upon examination of this little growth, Dr. Johnson declared it to be carcinoma.

The question arises whether this was the result of metastasis, a transplantation, or an independent growth. It could hardly be metastatic, because the vessels do not run in that direction. If it were an independent growth, it is probable that the conditions which produced it would have been active in other parts before this time. More likely it was a transplantation during the operation. This speaks strongly for scrupulous care in the cleansing of all wounds after the removal of cancer. According to recent reports, the patient is free from the disease.

The second hysterectomy was March 22d, 1889. Before the operation, the microscopic examinations by Dr. Johnson, and the subjec-
tive symptoms, were essentially the same as in the other case, except that no carcinoma was found. The microscopic evidences from repeated scrapings showed nothing more than adenoma. I removed the uterus on suspicion. Permanent hemostasis and closure of the peritoneal wounds were secured by means of lock forceps.

The following is Dr. Johnson's pathological report after examination of the extirpated uterus: "Cavity of body partly filled by mass of outgrowing mucous membrane consisting of long, slender villi covered with columnar epithelium. At the base of the new growth are found a few nests of irregular-shaped masses of polygonal epithelial cells packed closely together. In one specimen a mass of lymphoid tissue at some distance from the bases of the villi is seen, packed with epithelial cells similar to those last mentioned. Diagnosis: Villous adenoma, beginning carcinoma."

The patient recovered. At the present time she has no return of the disease, and is chiefly concerned in measures to counteract the too rapid accumulation of fat.

March 28th, 1884,1 I presented to this Society, with the specimen, a case of ovarian tumor complicated with general miliary tuberculosis of the peritoneum. The entire peritoneum—parietal, intestinal, and omental, as well as that covering the tumor—was extensively involved in miliary tuberculosis. Both ovaries were cystic. The left ovary, which was removed, was quite large. The right ovary was the size of a hen's egg, universally and firmly adherent; was not removed, because the patient's endurance had already been nearly exhausted, and it was therefore decided to remove it by a subsequent operation, if necessary.

The patient recovered, but the drainage tube opening at the lower end of the wound never closed, and continued to discharge large amounts of ascitic fluid, which finally became purulent.

Last fall she was admitted to St. Luke's Hospital with an abdominal enlargement, the drainage opening still discharging a purulent fluid. Emaciation was extreme, the urine was albuminous, and her condition was in all respects so grave as to preclude the idea of an operation. She died a short time after admission. The postmortem report by Dr. Frank Johnson, pathologist of the hospital, shows extensive degenerative changes of the abdominal and pelvic organs, probably consequent upon long-continued suppuration. It is now evident that both ovaries should have been removed four years ago.

DR. PARKES.—I would like to ask whether there was any general enlargement of the body in the hysterectomies.

DR. DUDLEY.—Considerable, but not so much as you spoke of. There was probably fifty or seventy-five per cent of enlargement.

DR. PARKES.—I would like to say that in making up these reports I shall refer definitely to what I do not remember now with reference to the report of Kaltenbach, of Halle. He reports seven cases

1 Journal of the American Medical Association, April 17th, 1884, page 434.
of vaginal hysterectomy for what he calls corpus carcinoma or malignant adenoma originating in the mucous membrane of the body of the uterus, some three or four with no external evidence of trouble; and he removed the uterus because all other methods of controlling bad hemorrhage had failed, and in all of these cases he found the same degeneration, commencing perhaps about the Fallopian tubes and then spreading up over the fundus so as to join in the mid-line, there being less manifestation of the disease in the mid-line than on the sides towards the Fallopian tubes.

Dr. Dudley.—In the second case of vaginal hysterectomy, I should say the uterus was about as large as the one described by Dr. Parkes; it was brought through the vaginal outlet with great difficulty.

Dr. Parkes.—Kaltenbach says that you have as a complication this enlargement of the body of the uterus, and that in cases of senile atrophy of the vagina the removal of the uterus may become exceedingly difficult or even impossible.

Dr. Dudley.—The indication sometimes narrows itself down to the question whether the uterus or the ovaries and tubes should be removed in a case of intractable uterine hemorrhage. If there are scrapings from the uterus, and if these scrapings turn out to be adenoma under the microscope, and they return promptly after removal, then I should fear carcinoma, present or prospective, and should be disposed to remove the uterus. If, on the other hand, it be not possible to get much out of the uterus by repeated curettings, the probability is against carcinoma as a cause of the hemorrhage, and the removal of the appendages would be preferable to the removal of the uterus. The malignant tendency of adenoma—that is, its disposition to eventuate in cancer—is abundantly shown by the observations of Breisky, Schroeder, Winckel, and others.

Dr. Parkes.—I think this point might be important to remember with reference to it: accompanying enlargement of the body of the uterus. With reference to the point raised of removing the uterine appendages in preference to the uterus, where nothing was found from the curettage, if this was supported by the small size of the uterus it would make the conclusion stronger.

Dr. Dudley.—The enlargement of the uterus might be from myoma; then the hemorrhage would be relieved by the removal of the appendages. But if scrapings from the interior of the uterus show adenoma, be the uterus large or small, then the patient may be losing valuable time until that uterus has been removed.

Dr. Parkes.—I should dislike to be placed on record as saying anything against the pathologists, but I think they would be placed in a very bad box without a full history of the case, and the symptoms and circumstances surrounding the case, before the operation.

Dr. Bayard Holmes.—Mr. President, I would like to speak of Dr. Parkes' case in which the suppuration continued so long after the operation, and to say that I believe it is typical. There was in that instance an infection of some one of the sutures, which I understand were of silk. It makes no difference how small an amount of infection gets into a solid, spongy material like a piece of silk; cells do not migrate into the silk suture far enough to drive out the infection and as it were granulate it off, and, therefore, when the least end of a buried silk suture becomes infected it is only a matter of time when the colonization of the whole suture will take place. In the tissues surrounding the suture granulation tissue will appear, and a coagulation necrosis of the wall of this sinus will cause a collection of pus to appear at the point of least resistance. In this way
the whole of the suture may at last be discharged. But if one suture is attached to another, and another, and another, and so on, the whole line of sutures will eventually become infected; and if they are assisted by a good flow of pus they will probably be washed out; but if not, they may remain for an almost indefinite time, and the suppuration which follows in the track of these sutures may produce the same effects upon the kidneys and liver that we find in protracted suppuration of bone.

Dr. Holmes.—Since I occupy the position of pathologist to this Society, at least for a time, I do not like to have anything said that would lead one to suppose that a pathologist could find carcinoma if a sufficient inducement was offered him. The recognition of typical carcinoma is easy enough; but if a surgeon removes a portion of tissue half as big as a pea, and presents it to a pathologist for examination, it is presumptuous to suppose that the pathologist can examine that little, delicate piece and decide by it whether the uterus contains carcinoma or not. I want to say that a proper diagnosis depends as much upon the operator who removes the tissue as upon the pathologist. It would be wise under all circumstances to have him present at the operation. A little scrap is not enough; you want all the scrapings, and you want to know which ones come from the fundus and which from the cervix.

Dr. Dudley.—The uterus need not be much increased in size to be carcinomatous. In the first of the two cases just reported, the uterus was not very much enlarged, but the carcinoma was unmistakable. I do not wish to be understood as saying that I should always remove the uterus if adenoma were found in the scrapings; but if it returned promptly after curettement, and the hemorrhage did not cease, that would be diffuse adenoma and would be strong evidence of great danger from cancer.

Dr. Dudley.—I can indorse what Dr. Holmes has said. I have had occasion to employ pathologists to examine specimens, and wherever it has been possible to verify the examination it has always been found correct. In this case examined by Dr. Johnson, nothing was found in the first scraping; curettement was repeated and many more scrapings examined. Dr. Johnson spent days of time in looking through large numbers of slides, but reported that he could find nothing more than adenoma. I said to him that I would advise the uterus to be removed anyway, when he asked me for a little more time. He examined many more slides and finally found absolute evidence of carcinoma. Then the uterus was removed and the diagnosis verified beyond a doubt.

Dr. H. P. Newman.—I would like to ask if in the first case stated there was any curetting done.

Dr. Parkes.—Yes, sir.

Dr. Newman.—Was there any diagnosis made?

Dr. Parkes.—No, sir.

Dr. Newman.—It occurs to me that this history might throw some light upon those cases of obstinate uterine hemorrhage where the source of the flow is obscure.

At the November meeting, Prof. Jackson reported four such to this Society, in each of which not only were the usual methods of treatment unavailing, but the exact source of the hemorrhage could not be determined. It was suggested at the time by one of the members present that incipient fibroid or carcinoma might be the cause, notwithstanding there was no clinical evidence of such a growth. As I understand Prof. Parkes, in his case there was ab-
solutely nothing whereby he could trace the source of this continued
and profuse bloody discharge.

In reference to the other case, where suppuration extended over
such a length of time, I have an instance in mind where possibly
the theory advanced by Dr. Holmes might be substantiated.

It was an ovariotomy where three or four catgut sutures were
used in the abdominal wound, alternating with as many of silk.
The case progressed favorably up to about the fifth day, when sup-
putation occurred in the course of each of the catgut sutures, avoid-
ing the track of the silk sutures, but ultimately affecting the entire
abdominal incision.
The infected wound suppurated profusely for two or three weeks,
finally healing by granulation.

This case showed conclusively the source of infection, i.e., the
catgut, and possibly goes to prove what Dr. Holmes says of sepsis
being washed away by a profuse flow of pus.

Dr. T. J. Watkins presented an inaugural thesis, entitled

CONCENTRATED SOLUTION OF MAGNESIUM SULPHATE AS AN ENEMA,
WITH SOME POINTS RELATIVE TO THE PHYSIOLOGY OF THE ABDOMINAL CIRCULATION.

Dr. J. H. Hollister presented the following paper, entitled

NOTES ON ACUTE INVERSION OF THE UTERUS.

It is a matter of record that the uterus, whether gravid or unim-
pregnated, may become partially or completely inverted. The first
and obvious necessity to this result is a very material enlargement
and distention of this organ. This may result either from the de-
development of a fetus or from the growth of a tumor in utero. In a
uterus thus distended, I have the conviction that inversion would
not occur spontaneously, that is, from simple rhythmical contraction
of its own muscular structure; yet I am not aware of the teaching
of authorities upon this subject. It seems highly probable that
force must be applied to the fundus of the uterus to accomplish
its inversion. This may doubtless occur, independently of any
manipulation by an attendant, by the simple gravitation of a pen-
dulous tumor or by an adherent placenta, as the latter may be par-
tially discharged into the vagina, and, being adherent, drag a dis-
tended fundus after it. A more obvious and doubtless more frequent
cause for such displacement is that of undue traction upon the um-
bilical cord while as yet there has been but partial detachment of the
placenta. This last may be associated with undue pressure upon the
fundus at its superior portion, applied by hand pressure upon the
abdominal walls.
The inversion, judging from the phenomena presented by partial
inversions, commences by an infolding of the fundus more and
more to the uterine cavity, the advancement of this involution to
the cervix, then through the os into the vagina, and, when com-
pleted, the organ emerges through the vulva and hangs like a
pendulous pyriform tumor with its walls reversed.
The striking similarity which occurred in two cases which I have
carefully examined leads to the conclusion that when the uterus is thus completely inverted the os is no longer discernible, but that in its place we have an inverted cervix, giving a band-like feeling and not difficult of distention.

While the uterus remains in this condition, there seem to be two important facts present to which it may be well to call attention.

The first is the entire loss by the organ of the power of either rhythmical or tonic contraction. The atony of the viscus is as complete as though it contained no muscular fibres. Any amount of manipulation of the inverted organ does not seem to stimulate its contraction. So far as such contraction is dependent upon ganglionic stimulation, this seems for the time to be completely arrested. The application of ice to the inverted walls does not seem to cause muscular contraction. The function of sensation seems also arrested, for both of my patients were unconscious of pain from simple pressure or manipulation of the organ, while in one case there was marked adherence of the placenta over quite an extended surface, requiring considerable digital manipulation for its separation.

The second marked feature in each of my cases was this: After complete inversion, there was almost no hemorrhage from the uterine walls, and it was only after reduction had been nearly accomplished that the hemorrhage became troublesome.

As to the frequency with which the accident occurs, I am led to believe it to be exceedingly rare. This I conclude, not from my own experience alone, but also from the urgent desire of one of your number that my cases should be matters of record. His solicitation is the explanation of my presence to-night and of the preparation of this paper.

The histories of the two cases which have fallen under my personal observation can be stated in few words:

**Case I.—Mrs. P., American, aged 24 years, well formed, spare in figure, in moderately good health, and of active habits; married one year; first confinement. The patient was in labor for ten hours, and gave birth to healthy, well-formed babe weighing eight and one-half pounds. There was no unusual hemorrhage. The cord was tied and the babe removed.**

This was during the second year of my experience in the practice of obstetrics, but I had been instructed with great emphasis by my college professor in obstetrics to preserve as far as possible "a harmony between the uterus and its contents." Being thus forewarned, I am confident that I did not exert undue pressure upon the abdominal walls, nor did I detect partial involution. With some degree of traction upon the cord, still the placenta was not delivered. Holding the cord with moderate tension in my left hand, I explored the vagina with my right and found the placenta partially protruded through the os. Gathering this more and more into my hand, and with considerable traction, it gradually descended, until suddenly it protruded in a large mass external to the vulva. In endeavoring to
remove the placenta, I found it still adherent to a tumor half as large as the infant's head and pyriform in shape. I soon took in the situation as one of inverted uterus.

The fact, as I have before stated, that there was no considerable hemorrhage came greatly to my relief. I found a portion of the placenta—it seemed to me as large as the palm of my hand—still so adherent to the uterine wall that it required to be picked away segment by segment with my fingers and with some degree of force; and still during this process of separation there was almost no hemorrhage, showing that in this condition, by compression, the supply of blood to the uterus had been nearly cut off.

At this juncture I was able to summon to my assistance a neighboring physician, Dr. Shepard, of Grand Rapids, Michigan, a man fertile of expedients in emergencies, and who had had an extensive experience in midwifery, and to his superior skill I committed my case.

Efforts at reduction by simple pressure into the vagina were soon to him unsatisfactory. He then drew the organ out as fully as safety would permit, and then by digital manipulation commenced the evolution of this inverted organ. He was able to accomplish this, to a considerable extent, while the uterus was still external. Next, inserting the end of a round ebony rule an inch in diameter into the indented fundus, and still holding the cervix as securely in his left hand as possible, he gradually accomplished the reduction, and, as the fundus began to recede in the upward direction, carried it more rapidly upon the point of the instrument fully up to its normal position. In a few moments the outline of the womb could be detected above the pubes; it again resumed moderately strong rhythmic contractions, came down to normal position without any excess of hemorrhage, and the patient made a good recovery without any untoward symptoms, and was afterwards the mother of other children.

Case II.—Mrs. G., American, of Swedish extraction, aged 25 years; housewife, of active life, and moderately spare in habit; married and first confinement. I was called by Dr. J. H. Bates, of this city, to see this case in consultation in 1888.

The confinement had been one of moderate severity, but not at all complicated.

Dr. Bates has been long in practice, and was not aware of using more either of pressure or of traction than he was wont to do in such cases. Upon lifting the placenta from the vulva, he discovered the projecting pyriform tumor of the uterus inverted.

His patient living near my residence, I was soon at his side. Improvising an instrument similar to that which I had before seen used, I lost no time in endeavoring, in like manner, to accomplish a partial reduction with my fingers, and then to apply pressure as near as possible along the long axis of the uterus and the vaginal canal. Such was the extreme mobility and flaccidity of the parts
that I was unable to maintain pressure in the needed direction to the uterus, and I was continually foiled by its partial lateral flexion in the vagina, rendering pressure with the instrument useless. Again I brought down the uterus as far externally to the vulva as seeming safety would permit, and again, by pressure with my fingers in the form of a cone upon the centre of the fundus, began its involution. Continuing this pressure with my right hand, and controlling the cervix as long as I could in my left, I found the dilatation of the cervix gradually permitting the passage of the fundus with my right hand still engaged in it. With but little resistance, the organ was carried fully up to the region of the umbilicus, its walls perfectly flaccid, and maintained in position by my closed hand in utero. At this point the organ had not recovered its power of contraction, but I began to encounter pretty severe hemorrhage. Friction over the abdomen was met by no response of uterine contraction, and no outline could be discerned through the abdominal walls. In this emergency I was supplied with a good-sized linen handkerchief. In the centre of this a lump of ice twice as large as a hen's egg was placed. The corners of the handkerchief were twisted tightly down upon the ice, forming a very satisfactory handle. The right hand was slightly withdrawn down the vagina, the flaccid uterus following and bleeding profusely. The ice was carried up beside the wrist of the hand still well up in the vagina, until I had control of it in the partially flexed palm of that hand. The uterus was again carried fully up to its position, and contained, besides clotted blood, my hand and a fragment of ice at least an inch and a half or two inches in diameter. I reasoned that in this way I might accomplish, if at all, stimulus by distention. Holding my hand steadily in this position, I made gentle pressure with the left hand upon the abdominal walls, and almost immediately had the satisfaction of detecting rhythmical contraction. Soon this was more and more established. The hand was gradually withdrawn with the clot and ice as the uterus closed down upon it. The ice was engaged and kept at the cervix, and very perceptibly aided in stimulating its contraction. A few minutes later the uterus had accomplished normal involution. Its natural contour and position were evident by palpation above the pubes externally. The hemorrhage had nearly ceased; the hand was withdrawn with the ice now nearly melted; the vagina cleansed of coagula: the crisis was passed, and, though the patient had lost considerably from hemorrhage, she did not seem unduly exhausted, and the heart action was satisfactory.

I was informed later by Dr. Bates that, though he had enjoined, the utmost care as to overexertion of any kind, when he made his visit on the fourth day after her confinement, at an unexpected hour, he found her sitting at table with her family and serving the tea.

Dr. Dudley.—Would you remove the placenta before reduction of the inversion? The reason I ask the question is because con-
traction of the uteri while it is inverted is not favorable to replacement, and handling the uterus as much as one would need to in detaching the placenta might make it contract and increase the difficulty of replacement; consequently it has been the practice of many to replace the uterus with the placenta still attached.

Dr. Parkes.—I would certainly expect that, with a placenta as large as that body usually is, it would increase the difficulty to return the uterus with the placenta in position.

Dr. Dudley.—The plan has been indorsed by good obstetricians. There is one case on record in which the uterus became inverted in a woman, who had not been pregnant for years, while she was rolling ninepins.

Dr. E. J. Doering.—I think if we use any traction at all on the cord in delivering the placenta, one hand should hold the uterus firmly, so that the slightest inversion could be detected.

Dr. Parkes.—In listening to this paper and the criticisms that have been made upon it, I think it would be well for us to bear in mind the fact that the uterus may become extruded, that is, inversion may take place without any assistance on the part of the physician or any attendant of the patient. I think there are quite a number of instances on record besides these interesting cases to which we have just listened, notably in the article by Dr. Reeves to which reference has been made, and especially from the pens of the Dublin obstetricians. Personally I have had one experience with reference to it. Several years ago, when in obstetrical practice, I was engaged to attend a lady. Her labor came on rather unexpectedly, and it was so rapid and easy that no one was present, and it was not thought necessary to send for any one. The thing that excited their desire to have a physician was the fact that the after-birth did not come away as it should have done, and she was bleeding; so I was called an hour after delivery, and I found the uterus absolutely inverted, with the placenta attached to it, in the vagina. No one touched the woman, no medical attendant or midwife. The inversion was complete. I detached the placenta and had no difficulty in returning the uterus to its normal position. The lady is now living.

Dr. Dudley.—Would you detach the placenta and return the uterus, as a general practice?

Dr. Parkes.—I think so; it would be better to return it without the placenta than with it.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, October 2d, 1889.

The President, A. L. Galabin, M.D., in the Chair.

Report.—A report was read on Mr. Stewart Pollock’s specimen of Dermoid Ovarian Tumor from a mare, exhibited before the Society in July.

Specimens.—Dr. William Duncan exhibited: (1) a Dermoid
Ovarian Tumor; (2) an Ovarian Cyst; (3) Pyometra and Pyosalpinx, with Suppurating Kidney and Thrombosis of the Renal Artery, from a patient subject to syphilitic disease of the rectum. Dr. J. Phillips showed some Blue Urine from a case of cyanuria. Dr. Cullingworth exhibited a Hemato-salpinx from rupture of a varicose vein in the Fallopian tube. Mr. Woodley Hyman brought forward an Acardiac Fetus with Rudimentary Heart; Dr. J. Shaw, a Uterine Douche.

Dr. G. Ernest Herman read

A CONTRIBUTION TO THE ANATOMY OF THE PELVIC FLOOR.

In this paper measurements are detailed which show the great normal variations in the conformation of the parts which form the floor of the pelvis. It is shown that the projection of the pelvic floor varies from nothing to as much as two inches, and that in healthy nulliparæ the distance between the coccyx and anus, the length of the perineum, the distance between the fourchette and the symphysis pubis, and the length of the vagina, are subject to wide variations. It is pointed out that since these variations exist in healthy nulliparæ, peculiarities observed in parous women should not be assumed to be changes due to childbearing, unless it has been ascertained that they were not present previous to pregnancy. The clinical importance of these anatomical variations, in their bearing on the liability to rupture of the perineum and to prolapse, the adjustment of pessaries, and some forms of dyspareunia and sterility, is pointed out.

Dr. Herman also presented a paper on

THE CHANGES IN THE PELVIC FLOOR WHICH ACCOMPANY THE SLIGHTER DEGREES OF PROLAPSE.

He describes the descent of the pelvic floor which takes place during effort in health and is morbidly increased in prolapse. Measurements are given which show that this descent in health probably does not exceed three-quarters of an inch. This descent takes place partly by stretching of the sacral segment of the pelvic floor in an antero posterior direction, and partly by its recession downward and backward from the symphysis pubis, a movement which implies transverse stretching. In the antero posterior stretching, the perineum and the part posterior to the anus take part to about the same proportionate extent. This normal descent of the pelvic floor is accompanied with descent of the uterus into the vagina to the extent of about five-eighths of an inch. These changes may be morbidly increased and their relative extent morbidly altered. The descent of the pelvic floor may exceed two inches. This morbid increase of descent of the pelvic floor may be present without increased descent of the uterus into the vagina. In other cases, it may be accompanied with descent and protrusion of the anterior segment of the pelvic floor, with or
without the uterus. In such cases, when a protrusion at the vaginal orifice has taken place, further effort increases this protrusion, but does not increase the descent of the sacral segment of the pelvic floor. Backward displacement of the uterus is often present without more descent of the uterus or of the pelvic floor than is present in most healthy women; but in most cases of backward displacement of the uterus, the descent of the uterus and pelvic floor is increased. Backward displacement of the uterus is not associated with shortness of the vagina.

Although the symptoms of descent are usually relieved by suitable mechanical support, yet the amount of descent of the uterus or of the pelvic floor is not the measure of the severity of the symptoms. There may be symptoms with slight descent in some patients; much descent without symptoms in others; and in the same patient the symptoms may be present at one time and absent at another, although the amount of descent has not varied; showing that the symptoms are conditioned more by the state of the nervous system than by the local mechanical changes.

Dr. Graily Hewitt considered that Dr. Herman deserved much credit for his analysis of the phenomena observed in cases of slighter degrees of prolapsus. The subject was of vast importance, for the effects of so-called minor displacements, though not dangerous to life, destroyed all enjoyment of it. The patient's sufferings often become intensified so that in later years serious impairment of the uterine functions followed neglect of the symptoms of minor displacements in their earlier stages. Dr. Hewitt was glad to find himself in agreement with Dr. Herman on many points in reference to descent of the uterus and its effects in producing suffering. He believed, however, that in these cases the principal cause of the suffering was the exaggeration and intensification of the version or flexion of the uterus more frequently associated with descent of that organ. Descent of the uterus, pure and simple, was rare; but descent accompanied with flexion or version was very common. In estimating the effects of the displacement, it would be necessary to find out how much of the suffering was due to the mere descent, and how much to the increased flexion or version. So far as backward displacement was concerned, Dr. Herman noted that descent was thereby increased. Nothing had been said about anteflexion. Dr. Hewitt believed that anteflexion not yet rigidly set in that shape, the uterus being still fairly movable, might be regarded as not abnormal. The case was quite different when the organ was sharply bent forward, the fundus low down, and the uterus firmly resisting alteration of shape and position. Dr. Herman noted several cases of cystocele. In these cases the anteflexion was probably an important causative element. Descent of the pelvic floor was chiefly important because it brought about increase of flexion and consequent increase of discomfort.

Dr. Herman regarded anteflexion as one of the natural shapes which the uterus might assume. He had investigated the frequency of anteflexion in the healthy uterus, and laid the results before the Society (Transactions, vol. xxiii.). Vedelen had made a similar research with substantially the same result, namely.
that acute anteflexion was very common in health. No one else had investigated the question. Backward displacements caused symptoms in but a small minority of cases; not by any effect of the bending of the uterus, but by the torsion of, and pressure on, the broad ligaments, which returned the blood from the uterus. In a case described that evening, a patient was kept for two months in hospital, and all her symptoms went away; yet the retroflexion remained exactly as it was on admission, showing that it was not an important feature of the case.

REVIEW.

DISEASES OF WOMEN. A Manual of Non-Surgical Gynecology, designed especially for the Use of Students and General Practitioners. By F. H. Davenport, A.B., M.D., Assistant in Gynecology, Harvard Medical School; Assistant Surgeon to the Free Hospital for Women; Physician to the Department of Gynecology, Boston Dispensary. 105 Illustrations; pp. 312. Lea Brothers & Co., Philadelphia, 1889.

After a careful reading of this excellent little work, we think that its excuse for being, its scope and aim, cannot be better or more accurately defined than has been done by its author in his modest preface. While, with the present multiplicity of gynecological treatises and text-books, it may well be questioned what useful purpose a new one can serve, it seems to us that this one fills a space occupied by no other.

The work is not too ambitious, is not written as a text-book or for the specialist, but as an aid to the general practitioner in understanding and rationally treating the less serious gynecological cases met with in daily practice. It gives only the elementary principles of the methods of examination and simple forms of treatment of the more common gynecic affections. Surgical methods, except the simplest procedures, have been omitted. Pathological anatomy is not considered. Prominence is given to diagnosis and treatment, which are discussed in a brief but clear manner, the latter being confined to such measures as the author's practical experience has shown him to be of the greatest benefit.

Considering the purpose of the book, Dr. Davenport has succeeded admirably in accomplishing his end. With much to praise, there are only a few minor points open to adverse criticism or discussion.


Four years ago, in the November Journal appeared a notice of this well-known and favorite work, in which its popularity is dwelt on and the prediction made of many successive editions, and this because its author is recognized as safe, thorough, and
progressive. The chief change in the seventh English edition, from which the present American edition is taken, is in the introduction of the system of obstetric nomenclature favored by the International Medical Congress of 1887, which it is to be hoped will eventually be generally adopted and lead to something like uniformity in obstetric description. Besides this, the chapters on conception and generation and on puerperal septicemia have been carefully revised and several new plates and illustrations added.

The learned American editor, to whom the work owes so much of its success here, has added many new notes on various points, and in particular has brought the work up to date in the statistics of the various Cesarean operations, giving some very interesting conclusions. Thus, the mortality of the Porro operation has fallen from 58 to less than 20 per cent since 1884, and that of the improved Cesarean section from 45 to a general average of 20, and for Continental Europe of 12 per cent; while laparotomy, which attracted so much attention four years ago, has by reason of this diminished mortality almost ceased to exist, it not having been performed since September, 1887. The exsiccative method of treating extra-uterine pregnancy where the fetus is viable has been performed but once prior to 1885, but now has a record of five cases with no maternal death. In this series of figures can be read the tale of earlier operation, of more perfect technique, and of more careful asepsis.


This little book contains the lectures recently delivered by the author to the pupils of the Philadelphia Hospital Training School for Nurses, together with the addition of an appendix wherein are considered certain important matters not otherwise mentioned.

It is written in the author's well-known happy style, and, while giving clearly and pleasantly the instruction necessary in the many emergencies of the nurse's duty, it does not at all intrench on the field properly occupied by the physician. We would particularly commend those paragraphs treating of the ruling of the nurse's tongue; the physician himself might sometimes benefit from their words of counsel.


Beginning with an introduction by Apostoli, the work itself is essentially a translation of certain of his previously published papers, together with a few pages of concise notes by Bigelow on electric laws, currents, and instruments.

The peculiar views and methods of Apostoli have been so widely studied and discussed that any extended reference to them here becomes unnecessary.

To those who wish for an accurate statement of his views, and
who cannot read his papers in the original, we commend Dr. Bigelow's translation.


This maiden volume contains the text of the thirty papers read at the first meeting of what promises to become one of the most influential of the Southern medical societies.

The subjects of the papers cover many interesting surgical questions, certain of which must have led to animated discussion; this, however, has been necessarily omitted from the volume, owing to the inexplicable absence of a competent reporter. We trust that the coming year will see this defect made good. Parts of several of the more important gynecological essays have already appeared in this JOURNAL. See volume for 1889, pp. 154, 218, 219, 247.

ABSTRACTS.

1. Doleris: Modification of Alexander's Operation (Nouv. Arch. d'Obstét. et de Gynéc., February, 1889).—This is applicable to cases in which the ligaments are too thin to promise the proper degree of support to the replaced uterus without vaginal tampons.

The steps of the operation are: (1) As short an incision as possible on either side, starting from the spine of the pubes and parallel with the crural arch. (2) Finding the ligaments. (3) Replacement of the uterus and uncovering of the ligaments for the required distance. (4) Instead of the usual fixation to the abdominal wall, the right ligament is fixed to the pillars of the external inguinal ring by three sutures, the lowest and most internal corresponding to the insertion of the pillars on the pubes. After suturing, there remains a free stump, six or seven centimetres long, at the internal angle of each wound. The stump of the right ligament, after having been cut at its pubic insertion, is seized by forceps introduced from the left end of a subcutaneous incision, uniting the two wounds, and brought into the left incision. The left ligament is sutured to its corresponding pillars, the stump is resected as much as necessary and its end then brought into contact with and sutured to the vivified end of the right ligament.

The internal adherent portion of the right ligament is sutured to the corresponding pillars of the ring, while the free portion is cut and brought through a subcutaneous canal to the left cut ligament (already sutured to the pillars) and the ends are then united.

2. An Analysis of Thirteen Hundred and Twenty-two Recent, Unselected American Laparatomies (Pittsb. Med. Rev., Sept., 1889).—The abdominal sections here summarized comprise the consecutive work of eighty-two operators, all the operations having been performed during a period of three years beginning January 1st, 1886. These operations are not the entire work of all these surgeons during the three years; but they are in every case consecutive operations, no selection whatever having been made. They are all authentic reports, having been in every instance received from, and published
Abstracts.

with the consent of, the operators themselves. It is, therefore, believed that they may be taken as a fair representation of the status of abdominal section in this country during the period of three years which closed in December last.

Several facts of great interest are made apparent by the analysis. The general mortality of laparatomy for ovarian and parovarian tumors was 14.7 per cent, and that of the sections for removal of ovaries not the seat of tumor was but 7 per cent. Notwithstanding the present consensus of opinion against the tapping of ovarian and parovarian tumors, certainly 61, and probably more, of the 491 cases had been tapped prior to operation. The increase in mortality, however, of the cases that were tapped was less than 2 per cent over those not tapped. The somewhat surprising fact is noticed that of the 43 tumors of long standing (from four to thirty years) but 3 operations proved fatal. This is probably to be accounted for by the absence of malignant cases. That the removal of the second ovary in case of tumor does not increase the danger is shown by the fact that of 310 cases in which the second ovary was left the mortality was 15.5 per cent; whereas of 158 cases in which the other ovary also was taken the mortality was but 11.4 per cent.

The mortality after removal of non-adherent tumors was 8.2 per cent; of tumors with moderate adhesions, 11.1 per cent; and of tumors with grave adhesions, 20.9 per cent.

The mortality in private hospitals was 11.8 per cent; in private practice, 13.5 per cent; and in general hospitals, 20.7 per cent.

Of the 399 operations for removal of ovaries not the seat of tumor, there were but 25 in which a pathological condition is not noted, and it possibly existed in some of these. This shows a laudable disinclination to report oophorectomy for symptoms only. The reports of these operations for nervous symptoms make an unexpectedly favorable showing; those for hysteromaladiepilamy being 5 cured and 4 improved, in nine cases. The time, however, that elapsed from operation to report was necessarily rather short to assure permanency of result.

The cases of simple exploratory incision had a high mortality—12 in a total of 84 operations. The hysterectomies showed 21 deaths in an even 50 cases, and, eliminating the work of a few of the more successful operators in this line, this fatality would be very largely increased. The mortality of section for shot wounds of the abdomen (20 cases shown) is 35 per cent; that of section for stab wounds (12 cases) is 50 per cent.

Of the 432 laparatomies for other purposes than removal of ovaries, the mortality was 32 per cent; so that the devotees of abdominal section cannot yet boast of its perfectly innocuous character. Of the 1,322 laparatomies recorded, 668, over one-half, were done by eight operators: Joseph Eastman, John Homans, Howard Kelly, William T. Lusk, M. D. Mann, Paul F. Mundé, Joseph Price, and W. Gill Wylie.

3. Kleinwaechter, Ludwig: Contribution to the Diagnosis and Treatment of Cystic Fibroma of the Uterus (Wiener Med. Presse, XVI., XVII.).—Cystic fibromata of the uterus are rare growths; still more rarely are they diagnosed by because of their very close resemblance to ovarian cysts. Those rare cases diagnosed are those in which the development and growth of the tumors may be early recognized and watched. The author gives a detailed history of a case which he had under observation for a long time, and upon which he finally operated, removing a great mass weighing from two
Abstracts.

1229

and a half to three pounds and containing about one to one and a half quarts of fluid; neither the solid nor cystic portions of the growth were very vascular, and the operation, which lasted nearly two and a half hours, was almost bloodless. The first time K. examined the patient the symptoms and findings corresponded to fibroma. Forty-five weeks later, at the second examination, the picture had changed: the uterus was somewhat enlarged in toto, but this time a fluctuating tumor was present in its left horn, which had developed in the interval. The ovaries were found unaltered both at the first and second examinations. At the third examination the parts were again entirely changed. The uterus and its left horn, which formerly made two distinct masses, were now merged into one large fluctuating tumor, superficially very much like an ovarian cyst. At the last examination he not only could confirm his diagnosis, but was enabled to make out that the cystic degenerated portion of the fibroid had its seat in the left horn of the uterus. He did not make use of the sound in arriving at a diagnosis—he did not consider it necessary; nor was he oblivious of the fact that a similar growth had been punctured with a sound in the hands of Spiegelberg. Altogether the patient was under observation for about one year and a half. A rapid increase of the volume of the tumor was noted, similar to the reports of other typical cases. There was very little bleeding from the tumor; the menstruation was more profuse and protracted, but never amounted to hemorrhage. Serous discharges also took place, followed by transient diminution in the size of the growth. K. surmises that these periodic discharges of watery fluid would point toward a lymphangiectatic character of the fibroid. As cystic fibroma grows much more rapidly than fibro-myoma, and has a greater tendency toward decomposition, operative interference is the more urgently indicated; the latter now generally consists of removal through the abdomen, but K. considers removal by way of the vagina, as he did in his case, the more safe and conservative.

L. R.

4. Fritsch, Heinrich: The Simplification of Cesarean Section (Centralbl. f. Gyn., XXIII.).—During one operation, F. removed the rubber ligature after making the suture through the muscular tissues, in order to allow the circulation to be restored to the parts; he was surprised to note that even before the application of the serous suture there was no escape of blood; that, in fact, if the serous sutures were made for hemostatic purposes, they were superfluous. He inserted the sutures in this and another case, however, partly from usage and partly because of a fear that with the involution of the uterus the muscular sutures might become lax and allow of the escape of blood. At this time he performed a number of enucleations for myomata of the uterus, in which the walls of the uterus were almost as vascular as when the organ was gravid: the results showed that the capsules of myomata and uterine wounds of greater size than in Cesarean section may be united and sunken without fear of secondary hemorrhage, oozing, or sepsis. He is determined to profit by the lesson taught by these enucleations, and in his next Cesarean section will omit the serous sutures on principle. When Cesarean section is performed at a time when no other attempts at delivery have been made and no fever is present, the uterine cavity is self-evidently aseptic; irrigation or the application of iodoform under these circumstances is not called for. The uterine wound will not be affected by the lochia, and this fact removes the reason for being careful to avoid the decidua in entering sutures; the decidua is as aseptic as the musculature; time and pains are saved if the needle is
pushed directly through all structures; this also procures more perfect coaptation of the parts, and greater strength of the united wound is obtained by taking up more tissue. With the old way of piercing immediately at the sharp edge of the wound below the decidua, it can readily happen that a vein in a portion of the placenta cut through might not be included in the suture, and therefore remains open; hemorrhage is more rapidly checked by this means. The sutures should enter about 1 cm. from the edge of the wound on the outside and about 0.75 cm. on the inside. He gives the history of two cases in substantiation of his views. Of course the suture must be of the interrupted character, and the stitches should be no more than 1 cm. apart, and for the inexperienced it will be better to use silk instead of catgut. Should the wound gape somewhat between two stitches, it does not matter unless it bleeds, as it lies in a position where it will be compressed. L. H.

5. Martin, A.: On the Alcoholic Treatment of Puerperal Fever (Berliner Klinik, XVI.).—Knowledge of the nature and prophylaxis of puerperal fever is now so universal that the subject occupies a place of secondary interest to the physician. Its treatment, on the other hand, continually offers new difficulties. The local treatment, once so popular, has fallen into disrepute; many practise a simple symptomatic treatment. Alcohol plays an important rôle in the means adopted to control the fever and the general infection. Breisky was the pioneer in this method. The procedure did not meet with general favor, and the subject is sadly neglected in textbooks and current literature. Breisky considered alcohol an antipyretic; Runge sees in it a remedy toward making the system invulnerable and to lessen fever, and recommends in addition to it general baths for the lying-in women. The author's experience with the substance differed from B.'s and R.'s in that, while they practised its administration early in the course of the disease, in the great majority of cases he had not been enabled to make use of it until in the advanced stages, after all the usual means had been resorted to. He considers mainly those cases in which severe forms of septic infection with peritonitis, or pyemia with metastasis and emboli, were present, and only those in which there remained a possibility of accomplishing something by therapeutic interference. He at first considered alcohol, as did Breisky, in the light of an antipyretic, but found it inefficient; he then used it solely as a means of heightening the resisting powers of the patients, and in the majority of cases he was successful in this, with varying results. His material was derived altogether from private practice, consisting of eighteen cases. Of these, four had aborted (three beyond all doubt criminally); the other fourteen were delivered at the end of normal pregnancy. The majority of the labors were ended spontaneously in the presence of a midwife; three required the assistance of the obstetrician. In all the cases there were severe forms of puerperal disease. The alcoholic treatment was begun before the tenth day of illness in but five of the cases; in six, after the twentieth day. Local procedures were indicated in several cases in addition to the alcoholic treatment. In four cases, retained and decomposed portions of the ovum were removed, followed by disinfecting irrigation; in three it seemed advisable to make one more intra-uterine irrigation; in two cases permanent drainage was instituted. In the remaining cases the local processes were so far on the decline that cleansing irrigation of the vagina, with occasional cauterizing of ulcers in the introitus, were alone found necessary. In one case a parametritic exudate which had
softened was evacuated; in two the exudates evacuated spontaneously. The
alcohol was administered in the form of cognac, rum, old Burgundy and old
Bordeaux and southern wines, and heavy champagne, to disguise the taste;
in addition, beef-tea, chicken broth, preparations of eggs, etc. Most of the
patients took the alcohol in these forms willingly, others required continual
variety in the form of alcohol; the cases in which there was an invincible
repugnance to alcoholic beverages, or where there was continual vomiting,
are of course not included. In almost all the cases treated with alcohol for
a longer time, occasional diarrhea set in, whether in consequence of the regi-
men or as a symptom of the general condition is to be surmised. In one
case the patient took in the first six weeks seventeen bottles of cognac,
thirteen of Burgundy, thirty-seven half-bottles of champagne, four and one-
half of other heavy wines, and six of porter. There were five deaths in
the whole number.

Where the high temperature was persistent in recurrence, antipyretics—
frequently antipyrine—were exhibited. Of the five who died, but three
perished from the immediate effects of infection, one after four, one after
six, and one after eight days' use of alcoholics in large doses. The two others
died of pulmonary trouble; one was phthisical, with lungs already exten-
sively altered when she became pregnant; the other died of edema of the
lungs in consequence of ulcerations in the larynx.

While thus indorsing the views of Runge as to the action of alcohol in
heightening the resisting powers of the system in puerperal fever, M. was
not enabled to carry out his further recommendation with regard to bathing,
and, reasoning from analogy, does not think the latter essential. He does
not mean to have it understood that with the administration of alcoholics all
local treatment, when indicated, is to be neglected; the alcohol is but the
stimulus which is to be brought to bear to enable the system the better to
withstand the pernicious effects of the local disturbances

L. R.

6. Schultze, B. S.: The Trial Tampon and its Value in the re-
cognition of Chronic Endometritis (Wiener Med. Blätter, XX., XXI.).—
In 1880, S. published a description of a method of diagnosis he had found
useful for a number of years, which consisted of a tampon of absorbent
cotton saturated with twenty to twenty-five per cent solution of tannin
in glycerin; the tampon was firmly packed in the previously thoroughly
cleansed vaginal vault, so that it covered and surrounded the os and the
vaginal portion. If allowed to remain twenty-four to forty-eight hours
applied to a healthy uterus, on removal a small, clear drop of cervical
mucus will be found in the tampon at the part where it lay over the os; if
the mucous membrane at any point above the os is in a state of catarrhal
inflammation, pus which has escaped from the uterus will also be present;
the tampon should fit so snugly to the vaginal wall that its remaining sur-
face contains the uppermost epithelial layer of the vault.

S. has confirmed his warm opinion of the trial tampon by subsequent ex-
erience. After reviewing at length the unfavorable opinion expressed of
the ampon by Schroeder in his text-book, the author goes on to explain the
advantages of the tampon in diagnosticing chronic endometritis, and the
significance of the latter disease. Many cases of dysmenorrhea and sterility
with no palpable causes have their origin in chronic dysmenorrhea; pallia-
tive measures are generally the sole treatment. By the time these patients
consult the gynecologist, a host of complications accompany the original
trouble and overshadow it; the endometritis, apparently now a secondary matter, should be relieved first. Should, however, the patients be seen earlier in their troubles, and should nothing appear from a thorough examination to account for their condition, the tampon should be tried. In very many cases it will demonstrate the existence of chronic endometritis; and if the diagnosis be followed by the appropriate repeated irrigations with carbolic solution, the dysmenorrhea will disappear, and women formerly sterile will now conceive, provided that all the other conditions essential for fecundation are present. A large number of nervous and hysterical symptoms, especially nervous dyspepsia, various obscure pains, asthmatic attacks, and nervous cough, are occasionally dependent upon a purulent inflammation of the endometrium; the success of his treatment convinced him of this. It is not the loss of substance by the purulent discharge which debilitates the patient, for the amount of pus is frequently so little as to escape the notice of the patient; the affection produces by its location a variety of impressions of great menace to the general well-being. Stagnation of the secretion seems to be essential in the production of these effects; the fact that the purulent matter may be choked up within the uterus should greatly diminish the negative value of the absence of pus on the tampon on one trial; not only the discharge but the secretion of the pus is in some cases periodical. Pus stagnation seems to favor the very frequent accompaniment of parametritis of chronic character.

The earlier stages of chronic endometritis are latent in general practice; the anemia, pains in the stomach, and other dyspeptic symptoms, backache, migraine, and hysterical attacks, are the objects of occasionally successful, more often futile, treatment, until finally the genital trouble comes to the foreground. Years often elapse ere this occurs, and the patients are now greatly reduced; the treatment is now a far more complex and protracted one. If diagnosis is made in the earlier stage, we may often avert local treatment entirely by enjoining appropriate dietetic regimen and curative bathing resorts, and the disease runs its course without complications; or, should local treatment be imperative, it will lead all the more quickly and surely to a cure and guard against relapse.

L. R.

7. Weissenberg: On Gynecological Massage of the Pelvis (Centralbl. f. Gyn., XXII.).—The author presents some very practical points in the technique of this useful procedure, and, while not considering massage as a cure-all, is very warm in its praise as an adjuvant to other judicious treatment.

L. R.
IS CRANIOTOMY UPON THE LIVING CHILD JUSTIFIABLE?

BY

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In this discussion I will limit my remarks to a few of the important facts bearing upon the question of craniotomy and some of its alternatives, and will give reasons why embryotomy on the living child is not justifiable; I will also suggest the alternative that may be substituted to meet the conditions of any particular case. Craniotomy is of great antiquity, antedating the time of Hippocrates, and it was probably practised by the Egyptians during the reign of the Pharaohs; it is an operation that has generally been championed by ignorance and often practised with seeming brutality. Fortunately, with the advance of the science of obstetrics and other collateral branches, a more general diffusion of knowledge, and a more correct appreciation of our moral and professional responsibilities, the medical profession now recognizes that the field of embryotomy is curtailed, and the tendency of science is to eliminate this operation on the living child from obstetric procedure. I believe that the alternatives, abdominal section, induction of premature labor, etc., will give results that will justify its total exclusion, but this presupposes that these operations should be
cases of election, and not done as a last resort. Unfortunately, the statistics of embryotomy have not been carefully or correctly kept, and we are unable to get at accurate conclusions as to its probable mortality compared with the mortality shown by the more carefully prepared statistics of abdominal section and the induction of premature labor. We are sometimes told that embryotomy should have a very low mortality, and we occasionally see statistics that appear to justify this assertion, but many of the cases operated on were women who had previously given birth to living children, or who could have been delivered by the induction of premature labor, or at term unaided or by the forceps or version. The German statistics are particularly faulty in this respect, and Leopold's reports of 20 consecutive cases delivered by craniotomy without a death is no fair criterion, for the conjugata vera diameter was 7.50 centimetres (nearly 3 inches), and in such cases craniotomy, if carefully done, should have a very low mortality; but it is contra-indicated, and some one of the alternatives would give nearly as good material results and would save most of the children. No better results are obtained in craniotomy than in England; they dread Cesarean section because of its local fatality, and prefer craniotomy in cases of pelvic deformity of low grade. Parry gives the British records in pelves of $2\frac{1}{4}$ inches or less at about 20 per cent. De Söyre gives 52 cases of embryotomy in pelves less than 2.15 inches, with 31 recoveries and 21 deaths, a mortality of 41.38 per cent; and Maygrier 67 cases in pelves from 2.53 to 1.40 inches, with 39 recoveries and 28 deaths, a mortality of 41.79 per cent; of these cases, 31 were in pelves measuring 2.34 inches at the highest, with 17 recoveries and 14 deaths, a mortality of 45.16 per cent. Rigaud and Stanescu give a mortality in 122 cases of embryotomy at 38.52 per cent. These are probably the most reliable statistics until very recently, and it will be observed that the conclusions are relatively uniform.

Dr. Wyder (German Gynecological Society, September 21st, 1887), in 167 craniotomies from the obstetric polyclinic at the Charité, gives a percentage of 14.50 mortality; of these cases, only 126 had contracted pelves. In Carl Braun's Clinic, 1884 to 1885, craniotomy was done 49 times with 8 deaths, a mortality of 16.30 per cent.

Thorn (Arch. für Gynäk., vol. xxiv., page 437) reports 80
cases from the Halle Clinic, with 10 deaths, a mortality of 12.50 per cent; and Merkel (Arch. für Gynäk., vol. xxi., page 461) reports 100 cases, with 8 deaths, a mortality of 8 per cent. That we may appreciate how very simple these cases were, it is only necessary to know that of Thorn's list of 56 multiparae, 39, and of Merkel's list of 68 multiparae, 49 had given birth to living children, and most of them could probably have been delivered per vias naturales of living children.

No one will contend that craniotomy carefully performed should have any considerable mortality in such cases, but it will be claimed that some of the alternatives should be practised in the interest of the child, for surely it has some claims to our protection. The following from Barnes is quoted in defence of embryotomy: "Craniotomy done under fair conditions, such as are postulated for Cesarean section—that is, done at a chosen time, with due skill—does not involve any material mortality." But the force of this argument is practically destroyed by his further statement (British Gynecological Journal, part viii., 1886, page 315) that if we save the life of the mother by sacrificing the child, she may afterward be delivered of living children by the induction of premature labor. As it is conceded that few children are born alive in pelves of less diameter than three inches conjugata vera, we may logically conclude that most of Barnes' cases had a diameter of three inches or more.

Wyder (Arch. f. Gynäk., vol. xxxii., page 1) gives the mortality of 215 cases of craniotomy at Berlin, Halle, and Leipzig at 5.60 per cent, but he gives no detailed account of the exact indications, and most of the cases were presumably the lesser forms of pelvic contraction. It will not be gainsaid that craniotomy is often done on living children in cases where the women could have been delivered by the unaided efforts of nature, or by means that would have saved the lives of both mother and child; and any physician of large observation and experience knows of instances where a physician, or several physicians, had decided that craniotomy was necessary, but while preparing to operate, or because of delay occasioned by the refusal of the woman, her family, or her spiritual adviser to have the operation done, a living child was born. It is a conspicuous fact that the operation is relatively more frequently done by men who are comparatively ignorant of the science of obstetrics; as men become learned in obstetrics, the
operation becomes less frequent. Collins performed craniotomy once in 141 cases of labor, Clark once in 248, and Ramsbotham once in 805; but Siebold performed it only once in 2,095 labors, Baudelocque once in 2,898 cases, and More Madden has never recognized its necessity or countenanced its performance. (British Medical Journal, October 21, 1887, page 627).

As remarked by Dr. Busey, "The extraordinary frequency in the practice of some competent obstetricians is explicable only upon the theory of an automatic belief in its justifiability, which involves the more sweeping doctrine of necessary blamelessness for erroneous conclusions" (Gladstone), or the favorite and broader doctrine of Ingersoll, "The immunity of all error in belief from moral responsibility."

The future welfare of society and of the state is practically ignored by the embryotomist; he sees nothing beyond the present, and is controlled by the belief that the mother is of much more immediate use to the family, society, and state than the unborn child, and, therefore, it may be sacrificed. This belief probably has its origin in that ancient philosophy so forcibly enunciated by Cicero, and taught by moralists of all ages, that the life of the weaker and less useful, or that life which is of less value to state or society, may be sacrificed to protect the life of that person who is of greater value to state or society.

While pagan and stoic philosophers and moralists have been nearly unanimous in defence of this principle, such is not true of Christian philosophers and theologians. With few exceptions, theologians of the Catholic Church have always contended that embryotomy on the living child is forbidden by the commandments. This question was finally decided by Rome in 1884. The decision of the Holy Office, in answer to the dubium of the Cardinal Archbishop of Lyons, is against the lawfulness of craniotomy on the living child, or at least tuto doceri non posse.

 Practically, the philosophy which justifies the killing of an innocent person to save the life of another, if ever true, is not usually applicable to embryotomy, for women who have previously given birth to living children, or who have pelves large enough to give birth to living children in subsequent pregnancies, can generally be delivered without sacrificing the child. The exceptions are, in cases of monsters, hydrocephalus, etc.
But in cases where it is claimed the operation is indicated, the women have usually had no living children, nor are they capable of having any; so their existence is necessary only so far as they are able to contribute to the immediate interest and welfare of husband, society, and state, and at death their usefulness is ended. In such instances, the killing of the child would largely be a selfish matter, for it may, without materially endangering the life of the mother, be delivered alive by abdominal section; it may then become a useful member of society and state, and produce children that may continue to multiply and do likewise.

The destruction of life by craniotomy is so great, and the injury to society and state so manifest, that it is our professional, moral, and political duty to substitute some of the alternatives in the interest of the child, if we can do so without doing injustice to the mother.

Nearly seven thousand children are sacrificed annually in the United States by embryotomy. This estimate is based upon the most favorable mortality reports of less than ten per cent, with a population of sixty millions, and one craniotomy (Tyler Smith) in every three hundred and forty labors.

At the close of a few generations the loss would be relatively very great.

Let us now briefly consider the results to mother and child where the alternatives have been adopted. We will not waste time considering the old statistics of Cesarean section, where the operation was performed crudely with none of the modern and more successful modifications, and generally only as a dernier ressort, for in such cases it is not possible to get good results. Nor will we consider the results of laparo-eiytrotomy, for this operation is too complicated for general adoption, and in the practice of expert operators has not given as good results as the improved Cesarean section or Porro's operation. Nor is it hardly fair to include the statistics of the improved Cesarean section or Porro's operation in the United States, for nearly all these operations have been done after exhausting all other means, with the women nearly dead, and seldom as operations of election.

The following are the most complete statistics available on the improved Cesarean section, Porro's operation, and the in-
duction of premature labor, for which I am largely indebted to the courtesy of Dr. R. P. Harris, of Philadelphia:

**Porro-Cesarean Operations.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Countries</th>
<th>Operators</th>
<th>Localities</th>
<th>Cases</th>
<th>Women saved</th>
<th>Women lost</th>
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<td>Germany</td>
<td>27</td>
<td>18</td>
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26 operations, with 4 deaths, in 1888.

**Sänger-Cesarean Operations.**

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194 operations in 1888. 56 in Europe, with 8 deaths. 12 in the United States, with 7

68 operations in 1888. 56 in Europe, with 8 deaths. 12 in the United States, with 7

68

It will thus be seen that Porro's operation has saved in all countries 54.33 per cent of the mothers and 82.77 per cent of
all the children, or 137.10 lives out of 200 involved, while the improved Cesarean section has saved 75.77 per cent of the mothers and 93.81 per cent of the children, or out of a total of 200 lives has saved 169.58 lives. But if we very properly exclude the improved Cesarean operations in the United States, 81.48 per cent of all the mothers were saved, thus saving out of 200 lives 175.29 lives. The above is conclusive that Porro’s operation cannot be substituted, only in exceptional cases, for Cesarean section, unless future results materially change the statistics. So far as concerns the mothers, however, the results of 1888 are apparently in favor of Porro’s operation, unless we again exclude the United States, the percentage being 84.61 against 78. By excluding the United States the improved Cesarean section gives a success of 85.71 per cent.

It will be seen from the following statistics collected by Spiegelberg in 1870, and by Litzmann, from the best authorities, that premature labor induced, and premature labor in contracted pelves, has not given as good results as the improved Cesarean section or Porro’s operation. In Spiegelberg’s 219 cases, 84.90 per cent of the mothers and 32.10 per cent of the children were saved, or 117 lives were saved out of 200; and in the 34 cases of Litzmann, 44.20 per cent of the mothers and 47.35 per cent of the children were saved, or 101.55 lives were saved out of 200. In Litzmann’s statistics of premature labor in small pelves, a percentage of 68.80 of the mothers were saved and 68.75 of the children, or 137.55 lives were saved out of 200.

Maygrier gives the results of induced labor in pelves of 2.73 inches and below as follows: Mothers saved, 66.67 per cent; children saved, 35.30 per cent—or 101.97 lives saved out of 200. These are the best results that have been obtained, and the percentage of lives saved might be materially lowered by deducting those children that died within a few days or weeks after birth.

In the statistics of Rigand and Stanesco in induced labor in pelves from 3.51 inches to 1.95 inches, 69.91 per cent of the mothers were saved and 30.09 per cent of the children, or 100 lives were saved out of 200. In pelves between 2.34 and 1.95 inches, more than half the mothers and all the children died; so it will be seen that labor in pelves below 2.34 inches cannot be induced in the interest of the child. The most encouraging statistics of induced labor are given by Wyder (German Gynec-
colological Society, 1887). He reports 98 cases in which 91.80 per cent of the mothers were saved and 52 per cent of the children, or 143.80 lives were saved out of 260; but the conditions that indicated the induction of premature labor are not clearly given, and many of the pelves were probably relatively large.

The report by Wyder (Archiv f. Gynäk., vol. xxx., page 1) of 306 cases of premature labor, with a mortality of 3.90 per cent, is not worthy of consideration in this connection, and should not influence us in adopting the alternative of premature labor.

While the induction of premature labor shows results much worse than the improved Cesarean section, there are instances where it is a better alternative to craniotomy, and, therefore, the following facts may be useful:

It is never wise to induce premature labor in pelves with a conjugata vera less than 2.50 inches; the fetal head at seven months, being only 2.70 inches in its biparietal diameter, may be compressed 0.39 of an inch by the uterine contractions, thus enabling it to pass through the pelvis. If the contraction is not so great, pregnancy may continue longer, since the biparietal diameter measures at seven and a half months 2.90 inches, at eight months 3.10 inches, at eight and a half months 3.30 inches, at nine months 3.50 inches, and at term 3.70 inches.

That the Porro operation is preferable to the Cesarean section in some cases no one will deny, and Sänger gives the following indications for its performance:

1. "When the discharge of lochial secretions is rendered difficult or impossible per vias naturales—i.e., by stenoses and atresiae of the cervix and vagina, or by tortuosity and compression of the soft obstetric canal, due to a tumor not belonging to the uterus."

2. "By pregnancy in the closed-up half of a uterus bicornis, in which delivery is preferably effected by establishing an artificial opening toward the open half (strictly speaking, this is not a true Porro operation, since the remaining half of the uterus may be again impregnated)."

3. "When infection of the corpus uteri is evident."

4. "After repeated classical sectio Caesaria."

5. "By serious osteomalacia."

When delivery per vias naturales is prevented by uterine or
abdominal tumors, the alternative to craniotomy is to remove the tumors, if it is possible to do so, otherwise the Porro operation is the proper alternative. Porro's operation is also indicated in a ruptured uterus where the rent extends through all the coats, whether the child is in the abdominal cavity, the uterus, or has been delivered. If the blood, the bloody serum, and liquor amnii be thoroughly removed from the peritoneal cavity before decomposition or inflammation, the operation offers but few additional dangers and removes many. But the operation should be done immediately, for all the pathological changes are against the late operation. The woman may have recovered from the shock, but adventitious sacs, plastic adhesions, etc., will have formed, will prove troublesome, and will prevent success.

The above justifies the conclusion that the risk to the mother, in timely operations and in cases of election, in abdominal section for the removal of a living child, is not greater than in embryotomy, and when the medical profession correctly appreciates this genuine truth mutilating operations on the child will be relegated to their proper sphere, viz., cases where the pelvis is relatively large and the fetus is dead.

SOME POINTS ON THE PERINEUM AND FORCEPS,
WITH A DESCRIPTION OF A NEW METHOD OF ASSISTING THE PERINEUM, 
AND A NEW COMBINED AXIS TRACTION FORCEPS TO BE USED AS AN ALTERNATIVE FOR CRANIOTOMY.

BY
T. J. McGILLCUDDY, M.D.,
Surgeon to the Yorkville Dispensary and Hospital for Women and Children; Obstetrician to the New York Mothers' Home, etc.

(With twelve woodcuts.)

The use of the forceps is the most important of all obstetric operations, and on its correct manipulation depends, to a great extent, the welfare of both mother and child. Perineal lacerations that could be easily obviated are among the most frequent results of the injudicious use of the common forceps,
when by a little study and care with each individual case they need occur but rarely. With our improved knowledge of the physiology of parturition and anatomy of the perineum, the writer believes that we can in many cases, by proper interference, protect the perineum from laceration, while misdirected efforts, based on an erroneous theory or on none at all, often cause the injury. There are cases, however, in which the vulva and perineum will not stretch but will rupture in spite of every effort. All lacerations should be prevented when it is possible, as the slightest are in no way beneficial and

Fig. 1.—Dissection of perineal region (Savage).  a is just above transversus perinei;  
  b, base of perineal body; c, bulbo-cavernosus or constrictor vaginae; d, levator ani.

may become an entrance for sepsis. "Supporting the perineum," so-called, came into vogue about the middle of the last century; accepted by some and by others rejected, its status has been doubtful up to date. The vast majority of obstetricians are convinced, however, that "something must be done" to prevent the perineal tear; but they are not entirely satisfied with present methods, and when they do adopt them they are not successful in a large proportion of cases.

A variety of methods have been proposed, but the usual way of "supporting the perineum" is like placing the hand flat
against a piece of rubber to keep it from stretching. Marcy, in writing of the perineum, says: “In the nulliparous woman this is clearly defined as a firm portion of the pelvic floor, and is composed of skin, fat, elastic and connective tissue, transverse muscles sustaining fascia, and the anterior portion of the sphincter ani.” . . . “The vulvar organs are all intimately blended with, and go to form a part of, the perineum proper.”

The best time to examine the perineum and its muscles is during parturition, as then, all the tissues being extremely elastic, the finger can easily trace each separate muscle and study its relations.

In many cases any interference with the perineum is not called for, but it is always proper to watch it carefully and see that it dilates equally and gradually, holding back the head when the tension is too great. Sometimes the uterine forces take a vicious direction, driving the head backward and even causing delivery through the rectum. In one case I arrived just in time to prevent this accident; the rectum was bulging outward and delivery threatening through it, caused by the parts being exceedingly distensible and by a misdirection of the forces. If the posterior commissure and perineum become dangerously tense, or when the forceps has brought the head against the perineum, distending it and the vulva sufficiently to allow about two inches of the scalp to show between the labia, and delivery of the head is imminent, the following method, which is the result of the study of a large number of cases, may be employed:

Standing at the right side of the patient, with forceps removed, after wiping the skin with a dry towel, the left hand, with the thumb on the right labia and the tips of the fingers on the left, presses down and draws the vulva and constrictor vaginae from their attachment at the symphysis, thus enlarging the ostium vaginae and relaxing the fourchette. The right hand also relaxes the posterior commissure by pressing the skin, connective and muscular tissue toward it, as illustrated in Fig. 2, in the direction of the arrows. The rate of delivery of the head may be regulated by pressure of the thumb of the right hand against the scalp, if it is coming too fast; or the first two fingers, by pressure at the brow, malar bones, or chin through the anterior wall of the rectum, can assist the enu-

1 American Journal of Obstetrics, January, 1889.
cleation of the head in the intervals of the pains. With the right hand we relax from the sides the skin, transversus perinei muscles, and that part of the perineal fascia named by Savage the ischio-perineal ligaments and mucous membrane. That this pinching and pressing of the transversus perinei toward the central tendon of the perineum can be done is shown by
pinching up the tissues of the thigh. The principal strain comes on the central portion of the perineum at the fourchette.

The above method is to be used during the pains, before and at the moment of crowning and expulsion of the head, when the mother should be cautioned in some cases not to bear down too forcibly. The attendant must also be careful that the patient does not jerk herself away from the pressure suddenly, causing the head to come quickly against the parts and thus producing the very accident it is sought to avoid. This method increases the circumference of the vaginal outlet when it cor-

Fig. 4.—Last stage of extraction and preservation of the perineum (Playfair).

rugates and relaxes the posterior commissure; it also has a strengthening effect on the weakest part. At the same time it helps the head to complete the pelvic curve and in emerging to hug the pubes, thus assisting and imitating nature. Goodell, in his method, draws only from below and then through the rectum. He says, in his interesting article in the *American Journal of Medical Sciences*, January, 1871: "As the dilata-
tion of the ostium vaginae is made at the expense of the labia, which are attached to the anterior aspect of the pubic rami and symphysis below the mons veneris, much advantage will be gained both by compelling the complete extension of
the head and by carrying forward the perineum in order to approximate the fourchette to the level of the symphysis, whence its fibres spring."

Figures 4, 5, and 6 show how not to assist the perineum, and are methods which the writer condemns.

Among the principal indications for the use of the forceps are failure of the ordinary forces and conditions, where the mother or child is in danger and a rapid delivery is requisite.

It is sometimes applied before it is really necessary, where the labor is lingering although otherwise natural. An obstetrician should never be in a hurry: art cannot perfectly imitate Nature, although it may assist her. To interfere by application of the forceps too early is dangerous, as, Nature not being prepared to act promptly and the head not having moulded, the operator finds to his surprise that very powerful and repeated tractions with compression are required, and then often, after much diffi-
the Perineum and Forceps.

culty, finds a dead infant as the result of the delivery. Nature may be apparently slow, but she is generally sure, and while neither mother nor child is in danger there is no indication for the use of forceps. A great many modifications of the forceps have been proposed since its invention by Chamberlin. I find none, however, described, in the works of the authors that I have consulted, similar to the following. All tractions with any forceps ought to be made in the direction of the pelvic axis. The common forceps in use does not meet all the requirements,
especially when the head is at the superior strait. It cannot be made to follow the curvilinear direction necessary for axis traction while compressing the head in difficult and dangerous cases, even by the method of Dr. Albert H. Smith, because in making the handles a lever of the first kind you lose a great deal of the power of traction, which is always weak in the common forceps. This instrument is the ordinary forceps of Simpson or Elliot, provided with adjunct handles, making each blade and handle as firm as if it were one solid piece. With it we can make traction in the ideal pelvic axis during the entire passage of the head, and the direction of the traction is in a line passing through a point near the end of the handles to the centre of the fetal head (see Fig. 11). It prevents the impinging of the
fetal head against the inner side of the pubes, which is the cause of most of the trouble and difficulty in forceps cases. We ought to know before the application of the forceps the exact location and presentation of the head, by digital examination combined with abdominal palpation, as the French method of aiming to grasp the head in the biparietal diameter is very much to be preferred to the English or German, where the blades are inserted parallel to the sides of the pelvis. With the ordinary forceps, when leverage and axis traction are imperfect, the sharp ends of the blades may, when describing the pelvic curve, lacerate the vagina, with rupture of the perineal muscles from within; or cause extension of the forehead and face before the occiput has escaped under the pubes; or the shanks of the blades may grind against the pubic arch, doing damage to the urethra. The above forceps, when well applied, gives to our sense of touch or muscular sense, by its handles, impressions which act as a guide, and the straight portions of the handles are a positive index of the progress and position of the blades; therefore the traction is neither blind nor uncertain, as in some forms of the instrument. Axis traction is a necessity,
and it need not cease even when the head has reached the pelvic floor. It cannot be performed properly with the common forceps, where considerable force must be employed. This works all right in cases of easy delivery, but in difficult cases requiring much force it is neither safe nor efficient, as a great deal of the force is expended against the pubes, sometimes even causing fracture at the symphysis. With this form there is no binding screw necessary, and the blades are not immovably fixed after adjustment, as in the forceps of Tarnier; this is important, as sloughing of the tender skin has followed the constant pressure of the blades, which should be released every few moments so as not to interfere with the circulation of the parts included. The Tarnier instrument is complicated, no more efficient and more expensive than this form. The advantages claimed are that it makes direct, uncomplicated axis traction; that it is simple and easy of application; that in its dual character it has all the advantages of axis traction and the ordinary forceps, and saves the expense of buying two instruments where one will do; that it is easier to make rotation in posterior positions with the adjunct handles. The blades should first be applied, and the supplemental handles attached when required, as this takes but a few seconds. If well made it will stand any degree of manual force. In some difficult cases, additional traction can be used as an alternative or substitute for delivery by version or craniotomy. The belt and dynamometer designed by Dr. Alexander Duke, of Dublin,

Fig. 12.—Duke's belt with dynamometer.
can be added to the instrument to supply a greater amount of tractile force, which is often needed in forceps cases. He used this device whenever the forceps failed or when much fatigued, and is convinced that cases occur in which the child's life has an additional chance in using this plan of delivery, without additional risk to the mother. He says "there is more chance for the child and less risk to the mother's soft parts by pulling the head more forcibly and rapidly through the pelvis, than if it is allowed to remain to mould, as it is called, thus checking the circulation in the parts lining the pelvic walls; and if a greater force is applied to deliver, the pressure is removed for good and all, and the circulation becomes in those parts re-established." When we consider the "wrong of craniotomy on the living fetus," we know that a conservative measure of this kind should be tried as an alternative, because there are many cases, where craniotomy has been advised or performed, where the mother has previously given birth to a living child; and in others, during the preparations for the operation, and while waiting for the consent of those concerned, Nature has delivered the mother of a living fetus. I have personal knowledge of two similar cases. The operation of craniotomy upon the living fetus will shortly, in the light and advance of modern obstetrics, be relegated to obsolete operations.

125 East 83d Street.

FIBROMA DIFFUSUM OF THE LABIA MINORA.

BY

HERMAN L. COLLYER, M.D.,
Lecturer in Gynecology, New York Polyclinic.

(With colored plate.)

The case from which the accompanying plate was taken came under my observation while house surgeon to one of the venereal services at Charity Hospital during the winter of 1882-'83, and from its rarity has seemed worthy of notice. It was first photographed for me by Dr. Hagen, of this city, then
The patient was of medium size, light complexion, 25 years old, Irish descent, of doubtful character; she stated that she had been married six years, and had given birth to a child in early married life. Three years prior to her admission to the hospital she contracted syphilis, for which she received treatment. Six months later she was ill-treated by her husband, receiving a severe kick on the soft parts of the vulva, which became much swollen, the labia minora remaining large and hard from that time. No pain or discomfort followed the first effects of the injury. Later she contracted a gonorrhea, and a chancroid appeared on the inner side of the left labium minus; for these conditions she was admitted to the hospital for treatment.

Examination revealed old syphilitic lesions; alopecia; enlarged epitrochlear glands; a lenticular syphilide over arms and legs; tibial tenderness; greenish, purulent discharge from vagina; and on left labium minus a sore with the characteristics of chancroid. The labia majora were normal. My notes on the condition of the labia minora are as follows: The left labium minus (patient in dorsal position) is greatly enlarged and very, hard, bends on itself at its lower third, and forms a fleshy prominence extending to within a short distance of the anus. When held up, the inner portion, where the labium has its attachments, is found comparatively thin. From a point above to the lower end of the mass is about two inches; from the thin attachment to the greatest curvature, about one and three-quarter inches; at its thickest portion, about half an inch. On the inner side of this mass is situated the chancroid with its clear-cut edges. The appearance is that of a tumor attached to the outer portion of the labium and covering over the ostium vaginae. The mucous membrane covering the enlargement is slightly thickened and traversed by numerous indentations two or three lines deep, adherent to the tissues beneath. In appearance it is a pinkish white. On pressure it feels like fibrous tissue. As the mass is lifted up (Fig. 2), it gives distinctly the impression of a tumor with a broad, thin pedicle. The right labium, about half the size of the left, presents similar characteristics. The junction of the labia is thin, and drawn long by the weight. There is absolutely no pain.

When I suggested to her the advisability of surgical treatment,
she remarked that, as they caused her no discomfort, she was not anxious to have anything done; but she finally agreed to get the consent of her husband and return for operation. Unfortunately for me, she never returned; therefore I cannot give the microscopical characteristics of the growth. The labia never were edematous, neither were the secretions altered in any way after the cure of the gonorrhea and chancroid.

The question naturally arises, Is this a case of diffuse fibroma, or is it simple hypertrophy? In the latter, we have elongation, varying in degree; thickening, equal throughout; corrugations, but not fissures in the membrane; and a general softness. This condition is produced by some external irritation, as masturbation.

In diffuse fibroma, the etiology is very obscure. Syphilis has been more generally assigned as a cause than anything else; chancroids or buboes may have a causative influence by obstructing the flow of lymph through the vessels or glands of the parts, and so producing a lymphatic edema. Matthews Duncan’s cases reported as lupus, gummata, cancer, or elephantiasis were found by Thin not to be such microscopically, while in those cases that have borne evidences of syphilis the disease has not yielded under antisyphilitic treatment.

Clinically, as in this instance, these cases occur during the period of sexual activity, usually between the ages of twenty and forty years. The parts affected are the labia majora, clitoris, or labia minora. Either or both sides may be affected, equally or unequally. The shapes vary according to the locality and the part affected, but are usually polypoid with distinct pedicle. Masses covered with skin are usually rough, while those covered with mucous membrane are smooth, lobulated, or fissured. If the surfaces impinge and rub much, ulceration, simple in character, occurs. In growths covered with mucous membrane, the color may be pink, white, mottled, or dark; the tint varying according to locality and surrounding influences. The disease in itself causes no pain or discomfort, other than the inconvenience the tumor or tumors may produce from their size and locality. In the case here noted, the inconvenience was mainly an interference with coitus, the curtain-like masses having first to be lifted before intromission could be accomplished.

Histologically these growths consist of a hyperplasia of the connective tissue about the vessels and under the epithelium of
the part, together with a general small cell infiltration. There is also dilatation of the lymph spaces without proliferation of endothelium. The covering, be it skin or mucous membrane, is usually not thickened and is movable, though exceptions exist.

As these masses grow slowly, last indefinitely, and are not affected by internal medication, their removal by surgical means is our only resource. The indication for operation is usually the annoyance caused by the mere presence of the mass or the resulting deformity. The method of procedure must necessarily depend upon the individual case and the part affected, and may be by the knife, scissors, cautery, or ligature. The prognosis as to return after operation is good.

In all points except a confirmatory microscopical examination, this case corresponds with the recorded instances of fibroma diffusum.

173 East 83d Street.

FROM APOSTOLI'S CLINIC.

BY

ALICE T. HALL, M.D.

Patients who frequent Apostoli's clinic are very like those who seek our public dispensaries for gynecological treatment. They belong to the laboring classes, are hard-working, respectable women, and represent nearly every trade. The concierge, laundress, market-woman, shop-girl, seamstress, street vendor who has heard of Apostoli through friends, or who has not been benefited at other clinics, comes to see what electricity will do for her. Some are sent by other physicians in whose hands the ordinary treatment has failed. These patients present the usual pathological conditions—ovarian neuralgia, dysmenorrhea, endometritis, cellulitis, displacements, fibroids, etc.—and all receive electricity in some form or other. Ovarian tumors, and cancers, are the only exceptions. Thus far, as ordinarily given, electricity has seemed to stimulate the growth of these tumors, and such cases are therefore referred to a hospital, or special surgical interference is recommended. The
effect on ovarian tumors of electricity in doses of five hundred to six hundred milliampères, as used by Dr. Inglis Parsons, of London, for cancer, with apparent success, has yet to be tested; but it is not improbable that a method may be devised in the near future by which electricity can be applied even to this class of cases with safety and success.

The Apostoli method has not been a great success in the hands of most of the physicians of the United States and Great Britain, if one can judge from reports of society proceedings, and from replies received by Apostoli in answer to a letter sent to leading American and English physicians, asking if they had used the method, what results they had had, and what opinion they had formed as to its value. Engelmann, Martin, Lapthorn Smith, no less than Keith and Sir Spencer Wells, are among noted exceptions, and their results must be attributed to the fact that they understand how to use electricity and that they observe all the conditions necessary for success.

That Apostoli does get marked and lasting effects will not be disputed by any one who has followed the cases at his clinic for any length of time. His success would seem to be due to attention to all details, rigid antisepsis, and careful adaptation of the kind and amount of electricity to the strength and condition of the patient. As a rule, after a few visits to the clinic enthusiasm is almost unbounded. Electricity can do everything, and one longs for the chance to try his hand and show his skill. But this heat is tempered later. The careful observer will not fail to remark the regard for small things, nor to reach the conclusion that it is not electricity alone, but electricity applied by a watchful, patient intelligence that knows when to put forth and when to withhold. Electricity is also seen to have its limitations, since many of the cures are symptomatic only. Fibroids are, indeed, reduced in size and sometimes disappear altogether; pelvic exudates are quickly absorbed; but when the uterus or its appendages are prolapsed, when version or flexion exists, the position is very little affected. The way, however, is prepared for other treatment, and to complete the cure. Brandt’s massage and lifting the uteri may be used to advantage, or the better known method of replacing the organ and keeping it in position by tampons or pessaries.

The procedure at the clinic is as follows: The patient has her history taken by an assistant, and is then examined, the
vaginal examination being preceded by an antiseptic injection of creolin or sublimate. A diagnosis is made, after which several of the physicians present are asked to examine, and to confirm or dispute the diagnosis. Frequently, however, they are called upon to express an opinion independently of Apostoli, who withholds his own until each has given his diagnosis, orally or in writing. After a discussion of the case, the assistant records the condition from dictation. The patient has another antiseptic injection, receives any necessary advice or prescription for her general health, diet, etc., and is told to return in two or three days. At the next visit the examination is repeated, the previous opinion confirmed or, it may be, modified. Sometimes, of course, the diagnosis is reserved, as when pregnancy is suspected or when the nature of the existing lesion is obscure. The patient is then kept under observation until some conclusion can be reached and a plan of treatment formed.

Patients with simple ovarian pain only are treated at their first visit with the faradic current. This may be given in three ways. A bipolar uterine sound is introduced into the uterine cavity; or, if this cannot be done, a large bipolar vaginal sound may be used, the end of which is pressed against the ovary; or one pole may be placed over the ovary externally and the other applied through the vagina. The bipolar intra-uterine application is the best. The sound being in place, a current of tension (fine wire) is given for five to fifteen minutes, and it is rare that immediate and lasting relief does not follow. One treatment is generally sufficient, but more may be needed, and, if so, should be given every day until the cure is complete. Cases of marked hysteria but rarely yield to this treatment. They bear the current of tension or the current of quantity equally well, with almost no expression of pain; that is, they can take immense quantities of electricity. The pain felt by the non-hysterical when the current is first applied passes in a few seconds. If the current is very gently given, the tension gradually increased, the patient will hardly have time to complain before the discomfort is gone. In faradization, if the patient does not feel the current, two explanations may be given: either it does not pass or the nerve is immediately anesthetized. To prove the former, replace the fine by the coarse wire, and if a current is passing the patient will certainly
feel it. If she does not, the battery or conductors need attention.

If in doubt as to whether the pain is hysterical or not, observe its character—if it comes and goes brusquely on sudden pressure, if it is limited to the abdomen. Sudden pain is apt to be hysterical and not limited to the ovarian region, but may be produced by pressure on almost any part of the body, in the epigastrium or on the top of the head particularly.

The faradic current is also used where great ovarian pain coexists with fibroids, endometritis, cellulitis, etc., for the relief of this pain. This is immediately followed by the galvanic current for whatever other condition is present.

The method for the galvanic current has often been described. An abdominal electrode made of potter's clay, wet enough to make it easily moulded, large enough to cover the abdomen, and about three-quarters of an inch thick, is wrapped in cheese cloth and placed upon the abdomen. The uterine electrode is a platinum sound, or, if the canterization is to be localized, a hard-rubber sound with one extremity of carbon is used. This is introduced into the uterine cavity and the current very gently applied, while the expression of the patient is carefully watched. One should begin with a small dose, forty to fifty milliampères at first, increasing the amount each time as the patient can bear it, until one hundred to two hundred milliampères, or even more, can be borne. The application usually lasts five minutes, occasionally less, rarely more. After each treatment an antiseptic injection is given, and a tampon is placed in the vagina to prevent sexual intercourse. The patient then remains at the clinic at least two hours. Under no circumstances is this rest omitted.

If a galvano-puncture is required, it is made with a small steel trocar in the posterior or lateral cul-de-sac. The depth of the puncture should never exceed half a centimetre. Although very painful, some patients bear these punctures well without chloroform, but many require an anesthetic. When a puncture is made in cases in which hemorrhage is a prominent symptom, the positive pole is used, since this is the hemostatic; the positive pole is also used when the patient is very sensitive, since it is less irritating than the negative. But absorption takes place more rapidly when a negative puncture is made, hence the negative pole should be used when resolution is desired. The same
thing obtains in intra-uterine treatment: for hemorrhage the positive, for demntration the negative pole should be used.

Subacute ovaro-salpingitis is a common cause of hemorrhage, and when hemorrhage is not checked by continued galvano-cauterization of the uterine cavity it is well to see if this is not present, or if there may not be a beginning epithelioma which has been overlooked. If neither of these be found, the conclusion is that the electricity has not been given in sufficient quantity, or that the intra-uterine electrode has not been well applied to the mucous membrane of the uterine cavity.

As to the toleration of the current, it may be remarked that cases of pelvic exudate do not bear as strong currents as cases of fibroid tumors or endometritis. Therefore, in treating an exudate, the greatest care must be exercised not only to adapt the current to the tolerance of the patient, but also not to continue it too long. An exudate will yield more quickly to galvano-puncture than to intra-uterine cauterization, but the pain of a puncture is much greater and often renders chloroform necessary.

At Apostoli's clinic the patient is put to bed immediately after a puncture, and remains there from one to three days.

Like most gynecological measures, electricity has its disadvantages as well as its advantages. It is long and tedious. The treatment must be continued for months often before the cure is complete, while the time required for each séance is a drawback to its use, in large dispensaries at least. It demands care, patience, and trained intelligence on the part of the physician, no less than confidence and courage on the part of the patient.

The cure is symptomatic rather than anatomical in many cases. As has been stated, exudates and adhesions disappear, and promptly; fibroids are reduced to one-half or one-third their size, and occasionally entirely disappear also; but the prolapsed uterus or ovary remains prolapsed, flexions and versions are seldom improved.

The treatment, also, is often followed by pain, which, however, is not excessive and is seldom of long duration.

On the other hand, the advantages are marked and well repay the time and care demanded. Compared with the classic treatment, the results are remarkable. Many annoying symptoms are immediately relieved. It is a common thing after a few treatments, often after the first, for the patient to report
herself infinitely better or quite well. The whole appearance and manner of the patient show improvement. She can walk better, go up and down stairs without fatigue, can do her housework or follow her calling in comparative ease. The pain is less, the weight and dragging in the abdomen gone, vesical symptoms are relieved, and constipation is overcome. She eats and sleeps better. Moreover, she is not obliged to suspend her work during the treatment, except for a puncture. Hemorrhage is quickly arrested and controlled. The treatment is clean and without danger. Apostoli's results have justified his method. He has earned his title of master, and sooner or later must receive the credit which is his due.

The following histories, obtained during attendance at the clinic from November, 1888, to June, 1889, are offered as presenting fairly the details of the treatment in various cases, although the patients are still under observation.

Case I.—Madame D., perfumer, 20 years old, nullipara, presented herself at the clinic February 19th, 1889, for severe pain in the abdomen, on account of which she had been obliged to discontinue her work.

Nothing of note in the family history, except that her father died of pulmonary tuberculosis at 42. As a child the patient had chronic tonsillitis and frequent attacks of croup. For some months previous to the appearance of the menses she was troubled with leucorrhea. Menstruation established at 14, regular; severe dysmenorrhea for three days before the flow, which lasts six days but is not profuse. Patient obliged to remain in bed one or two days during each period on account of the pain. At 17 she had an attack of hysteria, but did not entirely lose consciousness. Has had similar attacks at intervals since. Married at 20. No sexual intercourse for the first four months after her marriage. At the end of three months a physician was consulted, who incised the hymen and dilated the vagina. The first and only coitus followed one month later.

Actual condition February 19th.—Menstruated from the 10th to the 17th of February. The period was preceded by the usual three days' pain, and followed by a watery discharge which still continues. Walking is difficult, attended by increased pain in the abdomen and thighs. Frequent micturition: is obliged to rise three or four times during the night; burning after the urine is passed. Constipation, headache, frequent attacks of hysteria. Not much appetite, but digests well and sleeps well. Complains chiefly of pain on defecation, and darting pain in the right iliac and in the anal regions. Right ovarian region sensitive. No internal examination.
Hot vaginal injections twice daily of creolin were ordered and patient kept under observation.

March 19th.—Menstruated from the 9th to the 15th of March, slight watery discharge after the period. Complains of pain in the right iliac fossa and about the anus. Defecation difficult. Purulent discharge from the urethra. Pain in the ovarian regions, more pronounced on the right. On vaginal examination, the cervix is found low in the pelvis, as partly open, slight retroflexion, endometritis; sound measures 7\(\frac{3}{4}\) cm. To the right of the uterus, and apparently continuous with it, a hard mass is felt, the size of an egg, elongated, flattened, and movable—probably an exudate involving the tube. Examination very painful.

March 30th.—After the examination, patient suffered from severe pain in the abdomen and from nausea. To-day, under the influence of chloroform, this diagnosis was established: Purulent urethritis, retroflexion, endometritis, complete prolapse of the ovaries in Douglas' pouch, right ovaro-salpingitis.

With one hand making pressure on the abdomen, that the mass on the right of the uterus may be more easily reached, and while the patient was still under the chloroform, the first positive galvano-puncture was made in the right tube lying in Douglas' pouch: the small steel trocar was introduced to the depth of 4 cm., as near the ovary as could be determined; 50 milliamperes, 5 minutes. Antiseptic injection, iodoform tampon.

April 2d.—Patient remained in bed at the clinic until the evening of April 1st, when she walked home. She vomited a little after the treatment, and had a slight diarrhea, but had no unfavorable reaction of any kind. The temperature taken after the treatment, and each morning and evening since, was 37\(\frac{1}{2}\) R. This afternoon patient reports herself as very well. All lumbar, abdominal, and anal pain has disappeared, except during defecation, when she has pain in the right thigh. She can walk without difficulty, eats and sleeps well, and feels ready to resume her work, which she had been discontinued before her first visit to the clinic. She complains of a frequent desire to urinate, and burning after the act. Tampon removed and found to be stained with a serous discharge. Injection of sublimate given and tampon renewed.

April 4th.—Patient reports pain in the right thigh posteriorly, like sciatica. This morning had nausea, but did not vomit. Intermittent burning pain in anal region. No return of lumbar or abdominal pain. On abdominal palpation, absence of all sensiveness in right ovarian region, very little in the left. Vaginal examination shows very much less sensibility in the cul-de-sacs, particularly in the region of the puncture.

April 6th.—Began to menstruate on the 4th, and for the first time in her life was not obliged to remain in bed. Although menstruating, patient feels very much better. Examination shows a marked diminution in the exudate at the right of the uterus.
April 9th.—Menstruated from the 4th to the 9th of April, more profusely but not as long as usual. Declares herself very much improved. Has resumed her housework, and does it easily. Goes up and down stairs without fatigue. Antiseptic injection, tampon of iodoform gauze.

April 20th.—Exudate continues to diminish; no other change. Injection, tampon.

April 25th.—Patient says she is very well; continues her housework without too great fatigue; reports slight pain on the left side. Injection, tampon.

April 27th.—Patient says tampon annoys her, and complains of malaise, which she thinks is premenstrual. Injection, tampon.

April 30th.—Some fatigue, slight white discharge, tampon badly borne. Injection, tampon.

May 2d.—Began to menstruate this morning; did not remain in bed; no marked pain.

May 4th.—Still menstruating, but is able to do her work. For the second time in her life—both times since the galvano-puncture—menstruation has been painless, attended only by a feeling of malaise.

May 7th.—Still menstruating a little; reports that she can remain standing several hours without much fatigue. On examination, the tumor is found very much smaller; almost no sensibility on deep pressure.

May 11th.—Patient has resumed her work in perfumer's shop; still has purulent urethritis.

May 14th.—Has a slight cough, some pain on right side, slight leucorrhea. No appreciable tenderness on vaginal examination.

May 18th.—Vaginal examination shows the tumor is appreciable but is still diminishing. Deep pressure in the right cul-de-sac induces pain in the anal region.

May 23d.—Reports herself as quite well; no longer has pain after micturition. Purulent discharge from the urethra much less. Patient kept under observation, and ordered to come to the clinic from time to time.

Case II.—Madame H., housewife, age 44, married; 2 children, 1 miscarriage. Came to the clinic February 23d, 1889. Nothing important in family history. As a child, patient was healthy. Menstruation established at 16, regular, painless, of four days' duration. Leucorrhea after the flow. Married in 1869 at 23 years. A year later first child was born, confinement at term and normal. One year after, second confinement at term. Three years after this, miscarriage at the third month. Did not remain in bed, but has never been well since. Abdomen has been sensitive; patient has been easily fatigued and has suffered at the menstrual periods.

In August, 1888, patient was taken ill. She had a chill, vomiting, headache, severe abdominal pain, and the abdomen
was swollen. The physician called made a diagnosis of pelvic peritonitis. Patient was taken to a hospital, where she remained three months. Was very weak when discharged in November.

In December, 1888, and January, 1889, had her regular period, which was preceded by severe pain and lasted four days. In February the flow lasted nine days, was very painful, and, for the first time, clotted.

Actual condition February 20th.—Menorrhagia. Walking very painful and difficult, riding impossible. Pain in the abdomen, and for the last month in both thighs. Has not been able to do her housework since August. Appetite good, but is nervous and does not sleep well. On vaginal examination, an exudate is found filling the posterior and lateral cul-de-sacs, more pronounced at the left than at the right, so smooth and hard that two physicians made a diagnosis of a fibroid. Uterus small and immovable, left lateral version. Sound measures six and one-half centimetres. Suitable case for galvano-puncture, but to accustom the patient to the treatment it was decided to begin with the galvano-caustic. I. Galvano-caustic, positive, platinum sound, 40 milliamperes, 5 minutes, sufficiently well borne.

March 2d.—Patient remained at the clinic two hours after the treatment; went home in the street car and bore the journey very well. Says she can walk better and sleeps better. Ordered to take hot vaginal injections of creolin twice daily.

March 7th.—Patient says she is better; notices most improvement in walking. II. Galvano-caustic, positive, platinum sound, 50 milliamperes, 5 minutes, well borne.

March 16th.—Did not suffer after the treatment. Had a slight hemorrhage March 9th and 10th. Has constant pain in the lumbar region, but can walk much better; can also ride, which she has not been able to do before. Says she is much relieved. Internal examination shows some depressions in the exudate; the cul-de-sacs are more accessible and better marked.

March 19th.—The exudate is more concave and not as hard.

March 30th.—Menstruated from the 19th to the 23d of March; pain during the period, but none preceding it. For the last five days has not been as well. Suffered from backache and great fatigue. Sleeps well, but has little appetite; nervous. Says her abdomen is swollen. Frequent desire to urinate. III. Galvano-caustic, positive, platinum sound, 50 milliamperes, 5 minutes, sufficiently well borne.

April 24.—Since the treatment, patient has suffered from giddiness, fever, pain in the abdomen and back, sleeplessness. Her appetite has returned, but she feels much worse.

April 4th.—Same condition.

April 6th.—Somewhat better. Abdominal pain has gone, but has much pain in the back and thighs.

April 9th.—Much better, but the backache persists. In spite of it, says she can remain on her feet a part of the day, and can assist in the work of the house, which she has not been able to
do for eight months. IV. Galvano-caustic, positive, platinum sound, 160 milliampères, 5 minutes, well borne.

April 18th.—After the treatment, had rather a profuse hemorrhage, which lasted two days; pain in the abdomen during this time. Great general fatigue, nervous, sleepless, without much appetite. On internal examination, the uterus begins to be movable laterally, but is still fixed to the sacrum.

April 20th.—Still complains of muscular fatigue, but has begun to do all her housework. Sleeps better, and says walking is all the time becoming easier. V. Galvano-caustic, positive, 80 milliampères, 5 minutes, well borne.

April 23d.—Did not suffer after the treatment; says she is better in every way. Internal examination shows the exudate is much less and the uterus more movable.

April 27th.—Patient says she is not too much fatigued by doing her housework, and that she continues to improve. Wants to know if she must come to the clinic as often.

Up to the last of May patient came occasionally to the clinic, but presented no marked change either for better or worse. The question of galvano-puncture was considered, but had not been made up to this time, May 31st.

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CASES OF UTERINE FIBROIDS FROM PRIVATE PRACTICE, AND THEIR TREATMENT.

By
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The cases which I report to-night are essentially clinical in their character, taken from private practice during a number of years past.

I have made no attempt at anything like an essay upon the subject of uterine fibroids, nor in discussing the treatment have I aimed in any degree to cover the question exhaustively.

I have stated the treatment followed in the cases reported, and purposely leave the subject open for discussion by the Society.

CASE I.—Mrs. B., aged 55 years, mother of six children,
Uterine Fibroids and their Treatment.

Youngest 16 years of age. Has always been well nourished and in fairly good health, though not strong.

Last confinement in 1873. Labor normal, but involution slow.

In 1878 began complaining of heavy feeling in pelvic region, backache, and pain down limbs. Vaginal examination revealed hypertrophy of uterus and retroversion, and tumor in anterior wall of uterus near the fundus. She was kept in bed for several months, under treatment for endometritis and retroversion, until the uterus could be kept in place by a pessary. The tumor enlarged to size of fetal head, and could be readily felt above the pubes.

She was put upon fluid extract of ergot treatment—from twenty drops to a teaspoonful three times a day, according to the amount of hemorrhage—and took it constantly for one year, and most of the time for five years. The ergot did not disagree with her in any way, but she frequently became very tired of taking it.

She was 44 years of age when the tumor was discovered, and she did not have the menopause until 50 years of age. During this time menstruation was profuse, lasting seven or eight days, and recurring every two or three weeks. By the use of the ergot, however, it was kept within bounds, and she was able to attend to household duties and measurably enjoy life. She was assured that the tumor would diminish in size and give her no further trouble after the menopause. This turned out to be the case, although the climacteric did not occur until the age of 50, the menstruation being prolonged, as is usual in fibroids of the uterus. She is now 55 years old, and has enjoyed good health for the past five years. The tumor can no longer be felt above the pubes, and only with difficulty through the vagina.

Case II.—Mrs. L., aged 41 years, brunette, rather stout. Has always been in good health, with the exception of uterine disorders. Menstruation has always been profuse. Has been married twenty-two years; never had any children or been pregnant. Had an attack of pelvic cellulitis when 15 years old, caused by jumping from a wagon. This was followed by excessively painful menstruation. This latter trouble was treated by Dr. Theophilus Parvin by dilating the uterus with sponge-tents. No cellulitis followed the use of the tents on this occasion.

My first attendance was in 1872, for malaria. Following the malaria ensued an attack of pelvic cellulitis, for which she was under treatment for several months. During the winter of 1873, the os uteri was dilated with sponge-tents, with the double object of relieving the dysmenorrhea and removing the sterility. This use of tents caused an attack of cellulitis. Subsequently, on recovery from the cellulitis, an attempt was again made to cure the sterility by dilating the os with sounds, but without effect.

March, 1881.—In making an examination in consequence of pain and menorrhagia, a tumor the size of a cocoanut was dis-
covered low down on the right side of the uterus, which caused pain in the bladder and rectum by pressure. The tumor was diagnosed as a subperitoneal fibroid connected with the uterus. A belladonna plaster was applied, and fluid extract of ergot, fifteen drops three times a day, ordered, the dose to be increased to a teaspoonful if necessary for hemorrhage. It was taken in this way pretty constantly for eight years, up to the present time. The second tumor made its appearance five years ago, in 1884. It was low down on the left side, and about one-third the size of the first mentioned. This added to the distress from pressure and menorrhagia. The latter symptom was always fairly well controlled by the ergot, so that Mrs. L. was able to be about and enjoy life to a reasonable degree. The third tumor appeared in the spring of 1888, one year ago, is situated in the anterior wall of the uterus, and is about the size of a fetal head. Since the development of the last tumor, there has been a great increase in the menorrhagia, the flow continuing two weeks, and sometimes so profuse as to be alarming. The ergot in full doses controls it only to a limited extent, and the general effect of the ergot is so unpleasant that the patient will only take it in full doses as an absolute necessity. This peculiar effect of the drug I will refer to again. It was proposed to try electricity with a view to controlling the hemorrhage, and in the hope that it might stop the growth of the last tumor, if it did not cause it to diminish in size. This was readily assented to by the patient, and treatment by electricity was begun October 6th, 1888. At this date the following was the condition: Four fibroids found—two subperitoneal in the right iliac region, one measuring five inches in length, the other three and one-half inches, and irregular in shape; one tumor in left iliac fossa three and one-half inches long, subperitoneal. All of these tumors have become smaller under the use of ergot during the past two years. A fourth tumor, which has appeared within a year, is globular and in the anterior wall of the uterus, four and one-half inches in diameter. Since the development of the intramural tumor, menorrhagia has become worse. Electrical treatment: Battery used is Waite & Bartlett cabinet, 40 Leclanché cells, constant current.

October 6th.—8 cells. Positive pole over abdomen—1 x 9 wire gauze electrode wrapped in soft towel saturated with salt water. Negative pole in the uterus—50 milliamperes. 15 minutes. Then current was reversed for 5 minutes. Resistance, 200 ohms. Distention of speculum caused pain. 13th.—Electrodes as before, + on abdomen, − in utero, 7 cells, 50 milliamperes, 20 minutes.

November 16th.—10 cells. + over abdomen, 30 milliamperes.—on lumbar region, 30 minutes. Reverse 10 minutes, + in utero. 20th.— + on abdomen, − on lumbar region, 10 cells, 40 milliamperes, 15 minutes; + in utero, − on abdomen, 3 cells, 20 milliamperes, 15 minutes.

December 5th.—9 cells, 40 milliamperes, 15 minutes, and re-
verse. Dr. H. L. E. Johnson assisting. 11th.—9 cells, 45 milliamperes, + on abdomen and reverse, 15 minutes. 14th.—8 cells, 45 milliamperes, 15 minutes. Reverse. 29th.—7 cells, 25 milliamperes increased to 40 milliamperes. Last period continued 9 days.

January 2d.—8 cells, 40 milliamperes, 15 minutes, and reverse 10 minutes. 5th.—10 cells, 50 milliamperes, 15 minutes. Reverse. 8th.—8 cells, 50 milliamperes, 15 minutes, and reverse. 24th.—As above. Menstruated from 13th to 22d, 9 days; quite profuse and painful. 29th.—9 cells, 50 milliamperes, + in utero, 15 minutes. No pain.

February 5th.—7 cells, 45 milliamperes, + in utero, 15 minutes. 20th.—Has been menstruating 13 days; used 35 napkins; no pain. Took during the time decoction of ½ lb. cotton-root bark, which seemed to prevent pain but did not check hemorrhage.—10 cells, 55 milliamperes, + in utero, 15 minutes. Central tumor lower down, but not reduced in size.

From this time, February 20th, the use of electricity was discontinued. It seemed to do no good, and its application was attended with much suffering. It was impossible with one pole in utero to use stronger currents than fifty milliamperes, on account of the pain produced, both at the time of application and continuing for hours after her return home.

The use of electricity in this case was unsatisfactory, both as to relief of the hemorrhage and relief of pain.

There was also no perceptible effect on the size of the tumors. But this latter was not to be expected from the strength of currents and mode of application. The pain caused by the electricity was described as a bearing-down and intolerable aching pain—evidently from contraction of the uterine muscle.

As to the use of ergot in this case, the fluid extract was used and taken nearly constantly for eight years, in doses of from fifteen drops to a teaspoonful three times a day. The effect in controlling hemorrhage was very decided, the larger dose being used when necessary for that symptom. The smaller doses were taken during the interim. The first and second tumors became smaller under the use of this drug, and I am certain that without it Mrs. L. would have been confined to bed most of the time, whereas she was able to attend to her household duties, go about and enjoy life.

The ergot, when taken in teaspoonful doses, caused pain in the rectum and bladder, apparently from pressure of uterine contraction.

The ergot also produced a peculiar effect to which I wish to call especial attention, since it was uniform and very marked, and I have not seen it referred to in the literature of this drug. This was a peculiar depression of spirits with hysterical phenomena, more marked when taking the full doses of the fluid extract, less marked when using the suppositories of ergotin.

I neglected to state that for the past three years she has been
using the suppositories of ergotin (0.30) three times a day, instead of taking the medicine by the stomach.

After taking the ergot for three days in full doses, she feels like crying all the time, then on the fourth day is angry with every one and displeased with everything, and wants to quarrel; will lie in bed and cry all day; easily irritated—while her natural disposition is just the opposite, even-tempered and exceptionally pleasant. The family soon came to recognize the state of mind and respected it accordingly. Husband and servants were very careful not to aggravate it, and even the little adopted daughter would say: "Mamma is taking ergot." In consequence of this disagreeable action of the ergot, I tried to find a substitute, and on February 5th, 1889, prescribed the tea of cotton-root bark, which she has been drinking since that date to the present.

The tea is prepared according to the directions of Dr. Garrigues in the Quarterly Bulletin of the Clinical Society of the New York Post-Graduate Medical School and Hospital. The directions are to boil three heaping teaspoonfuls of the powdered root in a pint of water for fifteen minutes, and when cool, strain. Of this one-third is to be taken in the morning, one third in the afternoon, and one-third at bedtime.

Dr. Garrigues has used the cotton-root bark in one hundred and thirty-nine patients, in most of them with decided benefit. He has found that it checks the bleeding of uterine fibroids and also lessens the associated pain, while in carcinoma and sarcoma it limits or altogether suspends for the time the hemorrhage. He insists that the remedy should be used in the form of a freshly made decoction, and states that it fails to produce any benefit in about ten per cent of the cases, which is certainly not an unsatisfactory showing. In the case here reported, it failed entirely to relieve the hemorrhage, and ergot suppositories had to be resorted to for that purpose; but it did relieve the pain and made the patient more comfortable. She rather liked the cotton-root tea as a beverage, and still takes it for its sedative effect.

Case III.—Mrs. S., a blonde, aged about 40 years, well developed. Previous health good. Has been married twenty years and has two daughters, aged 18 and 5 years. No miscarriages. Has suffered from menorrhagia for two years; menstruation on time, but lasting sometimes for two weeks. Has had profuse hemorrhages for three months, without pain. In good health otherwise, except from the exsanguination. Is pale, anemic, weak and weary from the continued loss of blood.
I was first consulted February 16th, 1888. Found uterus enlarged; cavity three and one-half inches; os patulous. Hard tumor in anterior wall just inside of os internum, apparently about the size of a hen's egg. Can be felt readily both by internal and external manipulation. Prescribed fluid extract ergot, teaspoonful three times a day.

February 16th.—Applied electricity. Abdominal electrode, wire gauze, $5 \times 7$, wrapped in towel and thoroughly saturated with salt water. Positive over abdomen. Negative platinum, intra-uterine. Ten cells Leclanché, 50 milliamperes, for 7 minutes. Resistance, 300 ohms. Thick muco-purulent discharge from uterus. Electricity caused no pain. 18th to 20th.—Severe hemorrhage and pain. 21st.—Uterus smaller and firmer. Galvanism, 12 cells, 54 milliamperes, 8 minutes. No pain. Positive in uterus. Resistance, 200 ohms. Hemorrhage continued, and on March 9th I was sent for. Found the anemia extreme, with corresponding exhaustion. A soft white mass was presenting at the os. Uterus dilated with Goodell's dilator, and a mass, in amount about a tablespoonful, removed. Strong solution of tannin in glycerin applied to endometrium, and cotton tampon. This mass supposed to be a mucoid polypus. After this the tannin and glycerin were applied daily and the hemorrhage ceased. The uterus at this time was firmly contracted, and the fibroid in the anterior wall was just beneath the mucous membrane. Between the dates March 18th and April 10th the tumor was extruded through the endometrium and appeared at the os, dilating it just as in miscarriage; it was firm, hard, and tough. The finger, passed into the uterus and around the tumor, found a firm pedicle an inch in diameter.

April 10th.—The os being well dilated, patient under ether, the tumor was seized with vulsellum forceps, drawn down and held by an assistant, while, with a pair of long-handled scissors curved on the flat, the pedicle was carefully cut through, the cutting being guided by the finger in the uterus. The tumor was then readily removed. It was a typical fibroid the size of a duck's egg. The uterus was wiped out with a fifty-per-cent solution of carbolic acid, and glycerin and tannin pad applied. There was no further hemorrhage. Mrs. S. made a rapid recovery, soon gained blood and strength, and menstruated normally at the next period. It is now one year since the removal of the fibroid, and good health has been uninterrupted. Menstruation regular and normal.

In this case electricity was applied but twice. It had no effect in controlling the hemorrhage, but did cause contraction of the uterus. To the ergot and electricity I attribute the speedy expulsion of the tumor.

Case IV.—Mrs. R., aged about 30, multipara. Was consulted in consequence of uterine hemorrhage and pelvic pain.
May, 1884.—Found on examination a polypus filling the uterine cavity and presenting at the os. Dr. J. Ford Thompson was called in consultation, and the tumor removed by the wire écraseur. Recovery was prompt and complete.

Case V.—In March and April, 1885, attended a lady, several years past her climacteric, who was suffering from irritation of the bladder. Micturition frequent and attended by great pain. Urine normal. General symptoms of extreme prostration, and cachectic appearance. Examination disclosed a tumor in anterior cul-de-sac between uterus and bladder, the nature of which was uncertain. I thought it to be hematocele, but with this opinion Dr. J. Ford Thompson, who saw her in consultation, did not agree, but was inclined, from the general condition, to think there was cancer, if not in this tumor, somewhere in the pelvic cavity. She died, and at the autopsy no cancer was found, but two round, hard fibroid tumors one and one-half and two and one-half inches in diameter. No other pathological condition was noted, but the autopsy was very superficial on account of the objection of friends. The symptoms pointed to these tumors as in some way connected with the cause of death, but just why I have never understood.

Treatment of Uterine Fibroids.—This resolves itself into three divisions:

I. Symptomatic. II. By electricity. III. Surgical.

I. Symptomatic.—I mean by this, treatment of such symptoms as hemorrhage, pressure, etc.

Hemorrhage is the most important, and the one which most frequently threatens life. The drugs of most value for the hemorrhage are, in the order of their importance, ergot, cotton-root bark, hydrastis, nux vomica, hamamelis, and ammonium chloride. In addition to the administration of medicines by the stomach, of great value and importance are rest in bed and local treatment at the times of profuse hemorrhage. A late writer lays special stress upon tampons with vinegar to control the hemorrhage. Ergot in some form is the most valuable medicine we have at command in this condition. Its action is twofold:

1st. By contracting the small blood vessels, and thus diminishing the amount of blood in the bleeding surface.

2d. Causing contraction of the involuntary muscular fibre of the uterine, which not only checks hemorrhage, but, in case of a fibroid tumor connected with the uterus, diminishes the supply of blood to this abnormal growth, thus checking its nutrition and limiting, or even lessening, its development.
Hildebrandt was the first to recommend, in 1872, its use subcutaneously for uterine fibroids, and reported a number of cases thus cured. The objection to this mode of administration is the pain produced by the injection.

The action of cotton-root bark is similar to ergot in causing uterine contractions, and in addition appears to have a sedative effect in relieving pain.

Hamamelis, or witch hazel, is referred to in this connection as a possible substitute for ergot and cotton-root bark in cases where they cannot be taken or have lost their effect.

In the Philadelphia Medical News of April 6th, 1889, Dr. Reeves Jackson recommends fluid extract of hydrastis, 20-drop doses, or hydrastin, $\frac{1}{4}$ (0.015) to $\frac{1}{2}$ (0.03) grain, in hemorrhage from uterine fibroids, and Dr. Baer recommends strychnia in combination with ergot.

II. Treatment by Electricity.—This paper has already grown so lengthy that I shall content myself by referring very briefly to electrical and surgical treatment of fibroids, and leave details to the discussion by the Society.

Treatment by electricity naturally divides itself into the expectant and the radical treatments: expectant, to relieve suffering, control hemorrhage, and stimulate the uterus to contraction; radical, to cause the absorption of the tumors by electrolysis, after the manner of Apostoli.

My experience—which is very limited—with the use of electricity for controlling hemorrhage and relieving pain has not been satisfactory. In Case II. it entirely failed to be of any benefit, and increased instead of relieving the suffering. In Case III. it was of value in hastening the expulsion of the tumor by stimulating uterine contraction, but it did not diminish the bleeding.

With the methods of Apostoli and other operators in electrolysis I have no experience whatever. It appears to me that this plunging of a needle into a tumor through the abdominal walls or through the uterus or vaginal walls, and the use of such powerful currents, cannot be devoid of risk, and I should class it as among capital surgical operations.

III. Surgical Treatment.—The important questions for discussion are the value of surgical interference in the removal of the tumors themselves, and the value of oophorectomy.
A REPORT OF EIGHTY CASES OF RAPID DILATATION OF THE UTERINE CANAL FOR THE CURE OF DYSMENORRHEA AND STERILITY.

BY

FRANKLIN TOWNSEND, A.M., M.D.,
Albany, N. Y.

I take particular pleasure in presenting a report of the results following the operation of rapid dilatation of the uterine canal under ether, as suggested by Goodell, in conditions, 1st, where severe and intractable dysmenorrhea was the most prominent symptom in unmarried women; 2d, or where sterility existed, either accompanied by dysmenorrhea or not, in those married.

From a careful analysis of over eighty cases operated upon by me for the relief of these conditions, I am led to believe sincerely in the beneficent results following this method of treatment.

Formerly it was my custom to dilate the cervical canal where stenosis existed, by a process of gradual widening by Peaslee's dilators, uterine sounds of steel, Sims' method, etc. Suffice it to say that success never appeared to attend my efforts in bringing about immediate relief, even after a very extended trial; though, I believe, in the hands of some others gratifying results have occasionally been secured.

From the time that Goodell made his report on "Rapid Dilatation of the Uterine Canal" (Trans. Obstetrical Society of Philadelphia, 1884), I ceased using the old method of gradual dilatation, and substituted the rapid method, with results most gratifying and noteworthy, as will be seen from the following tables:

Dilatation in virgins for dysmenorrhea, all other means failing. 57
Complete cure ................................................................. 53
No better ................................................................. 3
Made worse .............................................................. 1

1 Read by title at the meeting of the American Association of Obstetricians and Gynecologists at Cincinnati, Ohio, September 18th, 1889.
Dilatation in married women for dysmenorrhea and sterility, other means failing........................................... 23
Complete cure of dysmenorrhea........................................... 23
Complete cure of sterility................................................... 17
Remaining sterile two years or more after operation... 6

INDICATIONS FOR AND AGAINST THE OPERATION.

For Operation.—For an operation of this nature to be successful, it is essential that the pelvic peritoneum, cellular tissues, and uterine adnexa be in a normal condition; and when these are not so, failures may be expected. Endometritis and metritis, even with retro- or anteflexion, are not in themselves necessary barriers to the operation. The straightening of the uteri, with permanent free drainage from the cervical canal, is sufficient in itself as a means for the cure of the flexions, metritis, and endometritis which may exist. Indeed, it must be freely confessed that when cervical stenosis exists, endometritis, with or without metritis, is pretty sure to be found. There may or may not be flexions.

Against Operation.—It would seem utterly futile, and even dangerous, to operate in cases where pelvic peritonitis or cellulitis exists; and should salpingitis, no matter what the character, be present, the result of such procedure is almost a foregone conclusion—failure. These conditions must first be properly treated, especially perimetritic and cellulitic inflammatory troubles, and done away with entirely, if possible, before dilatation is practised.

It is absolutely essential that for success to follow this operation the cases must be carefully selected.

Again, it has been my experience to find failure following what I would now recognize as an incomplete operation—I mean an operation where all the steps were not thoroughly carried out.

Assuredly "rapid dilatation of the uterine canal" does not mean rapidly dilating the canal under ether, possibly from one-quarter to one-half of an inch, or even an inch, and then leaving the patient, trusting to Nature to do the rest. Such procedure is a thing of the past, I hope, when simple "stretching" of the canal a trifle, without even the use of an anesthetic, was deemed sufficient to work out marvellous results.

From a careful study of my cases, complete records of each having been kept, I am convinced of the absolute inutility of
this operation as just expressed. Possibly temporary amelioration of symptoms may follow simple dilatation of the narrow cervical canal, but in time the patient is equally as miserable as before operation. The patency of the canal caused by the dilatation will not remain permanent, even where rupture of the muscular fibres about the internal os takes place, unless it be kept so by the use of some such instrument as the stem pessary, which not only aids in this manner, but also acts very efficiently in straightening the whole uterine organ.

I am aware that there are many who hold that the use of such an instrument is a most dangerous procedure in any case; but I think that such views are greatly exaggerated, as in no instance have I seen any untoward results following the introduction and continued use of this form of pessary. This may possibly be accounted for by the carefulness exercised in its use, for I can readily understand that its careless introduction, with inadequate injunctions to the patient regarding possible dangers, might give, and in many instances no doubt has given, rise to most unpleasant or even dangerous results.

The various steps in the preparation of the patient for the operation, and those concerned in the operation, which have so uniformly yielded such excellent results, are simply these:

First.—The patient is to be operated upon a week, if possible, after her last menstrual period, thus giving sufficient time before the next flow for the healing of the uterine tissues, which near the internal os become bruised and lacerated; also the stem has opportunity to remain a sufficiently long time in situ to materially interfere with any serious narrowing of the cervical canal.

Second.—The rectum being previously unloaded by enemata, the bladder emptied, and the vagina thoroughly irrigated with a warm, clean solution of bichloride of mercury, one in five thousand, the patient is considered prepared for the operation.

Third.—All instruments used are to be thoroughly cleaned and laid in a pan containing warm bichloride solution, one in five thousand. The essential surgical armamentarium is limited, consisting of a Sims speculum, a double or single tenaculum forceps, and Ellinger's uterine dilators, corrugated ends, large and small size, as modified by Goodell; stem pessaries of plain vulcanite, or Thomas' galvanic stem pessaries, none to be longer than one and a half inches, sponge holders, tampons of prepared
cotton or wool soaked in a thirty-per-cent solution of boro-glyceride.

Fourth.—After the patient is thoroughly anesthetized, placed in Sims' position, and the speculum introduced and held by an assistant, the operator seizes the anterior cervical lip with the tenaculum forceps and gently draws down the uterus to near the vulvar orifice. This procedure tends to straighten the uterine canal for the introduction of the small dilator, which, when introduced beyond the internal os, is slowly opened until it is thought that sufficient dilatation has been reached for the introduction of the large Ellinger, whose blades should be separated to the extent of an inch, as marked on the scale placed near the handle—this being accomplished more or less gradually, and not by rude, quick measures; the stem is then introduced, the tenaculum and speculum are removed, the vagina tamponed, and a rectal suppository of opium one and one half grains, bella-donna extract one-half grain, and hyosciamus extract one grain, introduced.

Fifth.—Should there be pain over the hypogastrium, as is very frequently the case, a flaxseed poultice, with tincture of opium, is applied. The urine is to be drawn, if necessary, for a day or two. Usually by a week's time the patient is able to be out of bed, and, provided no pain is occasioned by the presence of the stem pessary, it is to be left until just before the next menstrual flow, when it is to be removed and again inserted after the period.

It was noticed, when referring to the results of rapid dilatation in virgins, that out of fifty-seven cases four were failures—that is, they were no better after the operation than before it, and one was made much worse.

This last case was that of a girl, aged nineteen, suffering from an acutely anteflexed uterus with a narrow cervical canal and conical cervix ("pin-hole" os externum). It was in the winter, when the days were short. The operation was begun late, darkness obscuring absolutely all specular observations. She took ether badly, and was only partially under its influence when the dilator was introduced into the cervical canal. There was no opportunity afforded for the use of the speculum, because of the darkness, and the whole operation was performed by the sense of touch alone: the dilatation of necessity, therefore, being but moderately and ineffectually performed, the patient
being "out from the anesthetic," and wildly tossing about the bed, almost before the blades of the instrument were withdrawn. Naturally, in this instance, no stem pessary could be used. Altogether I not only regarded the whole procedure as having been poorly and inadequately performed, but censured myself severely for allowing my better judgment to be led astray in attempting the operation under the unpromising conditions. In this case pelvic peritonitis was promptly developed, and it took quite three months before the young woman was on her feet again. No one was more to blame than the operator, and I made up my mind to never allow myself a second time to be caught in a similar predicament.

In the other three cases which proved failures, the operation was repeated in two of them after an interval of three months, and one was operated on three different times with no good results. All of these, I believe, remain sufferers from dysmenorrhea at the present time. In all these latter cases, the operation was performed with the same care and accuracy already mentioned as being so essential to success.

As to the operation for overcoming conditions of sterility, I can only say that the results were far beyond my expectations. Referring to the table (p. 1272), it will be noted that all were suffering from dysmenorrhea, and that the operation was productive of relief in all of the twenty-three cases; also that seventeen out of this number became fertile sooner or later after the operation—assuredly a good percentage.

In this connection a pertinent question naturally arises, and one difficult to answer: Did the operation put the patient in a more favorable condition for conception? Or might it not have been that these patients would have conceived without such operative interference?

In answer I can only say that in all but three of these cases operated upon pregnancy became evident after a few months, that is, within a year. Of three going beyond a year's time, one conceived at the fifteenth, one at the seventeenth, and one at the twentieth month after the operation.

As to the duration of the sterility in these cases, I append a table which goes to show that in all of the twenty-seven cases more than two years had elapsed since they married, the minimum length of time being twenty-eight months and the maximum being nine years.
A Case of Prolonged Gestation.

As to whether these cases, if left to themselves, would have conceived, I am not prepared to say; but I feel assured from the evidence that the operation placed them in a much more favorable condition than had they been left alone.

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<th>Case</th>
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A CASE OF PROLONGED GESTATION.¹

BY

G. N. ACKER, A.M., M.D.,
Attending Physician, Children's Hospital, Washington, D.C.

The following case occurred in my practice this spring, and I desire to place it on record, because the facts justify me in regarding it as an authentic one, and also because the date of impregnation can be fixed with certainty.

¹ Read before the Washington Obstetrical and Gynecological Society, May 3d, 1889
The patient is the mother of four children and has had several abortions. The former gestations were of normal duration and the labors easy. In the fall of 1887 she had an abortion at the second month, and was sick for several months from the effects of it. She had retroversion of the uterus, and hemorrhage came on when she assumed a recumbent posture. This was treated by replacing the organ daily and holding it in position with tampons. She gradually gained strength, and made a good recovery. Early in 1888 (March) she had another abortion, near the third month, and was unwell for some time. It was necessary to treat her again for retroversion and hemorrhages. The menstrual periods became regular, and she had it for the last time that year from the 15th to the 20th of May. Her husband had connection with her on the 20th of May for the first and last time for months. She left the city a few days afterwards and went to the seaside. About the middle of June she wrote home that she had nausea and morning sickness, and thought that she was pregnant—a condition she dreaded very much. About the end of September she felt quickening. From these data I placed the date of confinement about the 27th of February, 1889. The gestation was a normal one, with the exception of several slight hemorrhages about the seventh month, which led me to suppose that I had a case of placenta previa to deal with, on account of the previous history of inflammation of the womb. With rest this threatened danger was safely passed, the hemorrhages ceased, and her condition was a good one. When March came without any signs of labor except some pains in the loins, I made an examination and found that the cervix was short and soft and that the os easily admitted the index finger. The head presented. As day after day went by without symptoms of approaching confinement, she became very anxious, not only fearing that the child would become so large that the labor would be a difficult one, but also because her husband had begun to suspect that the child did not belong to him, as it was much over the natural time and he knew the date at which he had connection with her. Every few days I made examination and found about the same condition, except the uterus was lower down, the cervix shorter, and the os wider. The motions of the child for several weeks had been very active, and even violent, especially at night, causing her much annoyance and discomfort. I directed her to use hot-water injections (vaginal), and dilated the os several times with the fingers in the hope of producing uterine contractions. Full doses of quinine were given. These measures did not apparently have any effect on the uterus.

I advised her to send for me as soon as she felt pains, for I was certain that the labor would be a short one, especially as the last one was only of five hours duration. She commenced to have active labor pains about 4 A.M. on the 23d of March, and at 6:15 A.M. was delivered of a fine girl baby. The child did not appear to be larger than one at full term, and the bones of the head and
the sutures were in the same condition as usually found at full term. The placenta came away without any difficulty and was normal in every respect. During the labor I could not ascertain anything about the bag of waters. The lady stated that the membranes had not broken. The child was born with a caul, and there was very little if any water, as the bed was hardly soiled.

The patient in this labor acted differently from any of her previous ones, for she would not lie down, but insisted upon getting up and bending over. She said that this position made the pains easier. It was with great difficulty that I could make an examination, and even when the child's head rested on the perineum she wanted to get up. I expected, therefore, in this case, to find a very short cord. On the contrary, the cord was a very long one and entirely free from the child's head and body. Was the desire to get up and bend over to be attributed to the fact that there was so little water and that the membranes were intact? We all know that this symptom has been shown by Dr. A. F. A. King to be due in many cases to a short cord.

The duration of the pregnancy—if we take from the date of impregnation, May 20th, 1888, to that of delivery, March 23d, inclusive—was three hundred and five days. There are many cases on record where the gestation has been prolonged from one to four months beyond the natural term. We know the date when impregnation occurred in this case (for there was only a single coitus), and for this reason I thought the case a valuable one. Dr. James Arnott reported, in 1884, to the Bombay Medical and Physical Society, the case of a patient whose mother had fourteen pregnancies, all extending beyond the usual period. The patient had five pregnancies, all being from ten to twelve months. The sixth was somewhat over time.

Dr. S. K. Jackson (Journal Am. Med. Assoc., January 30th, 1886) reports a case that was four months delayed. This patient had previous inflammation of the womb.

Dr. D. A. McTavish (New York Med. Journal, April 13th, 1889) gives the history of a case that lasted three hundred and eighteen days. For two weeks the os was dilated to the size of a silver quarter. She also had pains in the back and anteriorly for two months. The previous history was good.

The literature of the subject contains such cases, and the regular works on obstetrics treat this subject fully, proving that though
ten lunar months is the natural term of gestation, yet among all animals there can be a marked prolonging or shortening of it. Bedford says that Nature, as regards human gestation, is not governed by any fixed or immutable law, but that the rule she observes is only a general one, subject to occasional exceptions. It is wonderful with what unfailing regularity Nature accomplishes her work. When any marked deviation from the regular way occurs, we are naturally anxious to ascertain the cause. When called upon to attend a pregnant woman, we inquire in regard to the date of last menstruation, when the morning sickness commenced, and when quickening was first noticed. Having these facts, we can, as a rule, place the date of confinement within a certain period. From some cause this reckoning can be disturbed and the gestation become shorter or longer.

The most interesting and difficult question for us to determine is, What is the probable cause of prolonged gestation? In connection with this naturally arises the question, What causes labor to come on? If we consult the books we find many answers given, such as the fetus being a prominent factor as the determining cause of labor. The great naturalist, Buffon, held that the fetus was the agent of its own expulsion. In this case the fetus was very violent in its motions for three weeks before delivery, and caused much distress, yet this was not sufficient to bring on the labor. Again, some have placed the determining cause of labor in the cervix, comparing it to the sphincters of the bladder and rectum. In this case I dilated the cervix all that I could with my fingers, in order to provoke the uterus to action, and was not successful, though the os was wide enough to admit two fingers. It was also very soft, and continued so for three weeks. The determining cause of labor has also been placed—and I think with reason—in the matured development of the muscular structure of the uterus, or, in other words, when it has reached the physiological limit of its growth. Anything that would retard this development and maturity of growth of the uterine muscular fibres would delay the period of labor.

In the history of this case we find that the uterus was the seat of a long continued inflammation before the impregnation. This condition would interfere with the proper development of the pregnant uterus, and also diminish somewhat the muscu-
lar irritability. Thus the labor could be delayed until the uterus had attained its full growth and its irritability was such that it would respond to the reflex stimulation.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

Stated Meeting, April 2d, 1889.

The President, Dr. H. T. Hanks, in the Chair.

VAGINAL Hysterectomy For EPITHELIOMA OF THE CERVIX UTERI.

Dr. J. E. Janvrin.—This specimen consists of a uterus removed between two and three weeks ago for epithelionia of the cervix. The woman, sixty years of age, was admitted to the Skin and Cancer Hospital about a month since, having had profuse and constant bleeding for six months. She was in an extremely bad general condition; was thin and weak, and, on account of poverty, had not received proper nourishment. I found a large epithelomatous mass extending down from the cervix, quite encircling it except at the anterior portion. It broke down readily and was accompanied by profuse hemorrhage. I cleared this portion away as near to the base as possible, had the part dressed daily with iodoform gauze for about ten days, and got the patient ready for hysterectomy. The diseased tissue involved about three-fourths of the cervix. I made the anterior incision as usual; dissected away the bladder, keeping as close as possible, of course, to the uterine body; then dissected posteriorly and applied the forceps, two on either side, as I found that I was not able to inclose the broad ligaments perfectly, even with the long clamp that I have used in some other cases. I then separated the uterus from the broad ligaments with the Paquelin cautery knife, instead of cutting with the scissors. I did that on the spur of the moment, not because of any special advantage attached to it. The usual iodoform dressing was applied. The temperature did not afterward rise above 100° F. at any time. When I examined her last, the wound had closed nicely and she was in excellent condition in every respect.

DOUBLE PYO-SALPINX, WITH FISTULOUS OPENING INTO THE RECTUM.

Dr. A. P. Dudley related the following case: A. S., æt. 31, admitted to hospital March 30th, 1889. Was married three years previously; lived with her husband one week, and shortly after
leaving him had gonorrhea. Two months after marriage she had a miscarriage accompanied by discharge of pus from the rectum. Was confined to bed for six months, having discharges of pus from the rectum daily. This condition continued, with slight improvement, up to admission into the hospital. Menstruation recurred every three weeks, being profuse and accompanied with pain.

Three years ago she came to my clinic with acute pelvic peritonitis, giving the history just read. She was suffering so severely that nothing could be done but put her to bed and use hot water and poultices. She drifted away, and did not come into my care again until about six weeks ago. She then had a discharge from the rectum, the cause of which will be described further on. I took her into the hospital, and kept her under treatment about two weeks, when she began to grow restless, and I hastened to perform laparotomy, which was done on Saturday last. The President had seen the patient with me. The pelvic contents were all matted together, including the small intestines, and it was with great difficulty that I could get to the tubes and ovaries. At one place where the adhesions were very firm I broke through two layers of the intestinal wall while separating it, which I had to repair by stripping up a portion of the peritoneum and stitching it over the rent. During my attempts to get into the pelvis, the tubal abscess on the left side ruptured and pus escaped into the abdominal cavity. On tearing up the adhesions, I found an ulceration into the rectum, distant about four inches from the anus. Below the opening into the rectum, extending down through the peritoneum into the recto-vaginal septum to a depth of about an inch and a quarter, was a pus cavity. This pus cavity probably connected with the pyo-salpinx. The ovary on the right side could not be separated from the broad ligament; consequently I tore it in two, cut it off, took a sharp curette and scraped the remainder off. But I hardly knew what to do with the pus cavity and the perforation into the rectum. Finally I decided to scrape the walls with the sharp curette. This procedure caused considerable bleeding at the time.

Having scraped out the pus cavity, I sewed the lower portion of the sigmoid flexure—the seat of the rectal opening—to the posterior wall of the uterus, turning the cavity in. Thus the healthy reetal and healthy uterine peritoneum were brought together, and the pus cavity and rectal opening were obliterated. Of course I had taken care to cleanse the cavity thoroughly and re-freshen its surfaces so that fresh blood exuded. I had employed four large flat sponges with which to hold the intestines well up, to enable me to see into the pelvic cavity. The abdomen was washed with hot water and the abdominal wound closed. No drainage tube was inserted. It has been three days since the operation, and the temperature has been only 99° F., and to-day is normal;
the pulse 76. I gave her a Seidlitz powder at the end of twenty-four hours, part of which was rejected. It was followed during the day by another, which caused the bowels to move. There is no pain, no abdominal distention, no peritonitis, and I think the patient will get well without trouble. Digital examination to-night showed a little thickening around the former pus cavity, but no deposit of lymph.

Dr. W. Gill Wylie.—The method which I have adopted in such cases is a little different from that of Dr. Dudley. If necessary, I have first opened the abdomen to make the diagnosis clear. Then, before resorting to removal of the tube and ovary, I have punctured the abscess below the rectal opening through the vagina, and drained in that way, thus getting rid of the danger of a rectal opening into the general peritoneal cavity. I have succeeded in doing that in a number of cases without difficulty, and I think it is rather a safer operation than the one which Dr. Dudley performed. It seems to me he was fortunate in not having matter escape from the rectum into his wound, which would have added to the danger. I think he will yet have further abscesses in the pelvic connective tissue. Thus he may yet have to drain and pack from below before he gets rid of the trouble. The method which I have pursued is rather the more conservative. If, after establishing drainage through the vagina and thus getting rid of the abscess, I find the symptoms warrant it, I remove the tubes and ovaries, and without greater danger than usually attends that operation.

Dr. Polk, after satisfying himself that he understood Dr. Dudley's method correctly, said: It seems to me Dr. Wylie is right in what he has stated, because there is no doubt one would get rid of certain immediate symptoms by establishing drainage through the vagina. Whether he would get closure of the rectal opening depends much upon the nature of the case. I have had cases of this sort in which I experienced the greatest difficulty in getting the rectal fistula to close, finally enucleating the whole thing, as Dr. Dudley did, and then obtaining the best of results. It is only, however, where the pus is in the immediate neighborhood of the vagina, not in the upper part of the pelvis, that I approve of puncturing through the vagina. That fact being understood, if you have adopted that procedure and the patient recovers, well enough. If subsequently it is necessary to make an abdominal incision, you can do so safely, the rectal fistula having closed. But if the fistula does not close, you will find yourself facing precisely the difficulty met by Dr. Dudley. What then shall be done with the fistula at the bottom of the rectal opening? Under such conditions, we know very well that the rectum, as a rule, is bound firmly to the pelvic wall, either posteriorly or laterally. While it could be freed (not from the mesorectum) so that it could be drawn up, yet you could not draw it sufficiently high to readily reach a perforation four inches from the anus. So that in the end you would be under the necessity of attempting to close this hole down at the bottom of the pelvis, and I understand that Dr. Dudley took those facts into consideration. Of course you could pack the cavity with iodoform gauze, put in a drainage tube, and establish a recto-abdominal fistula: but, after all, that is a horribly wretched condition to leave a
patient in. Sometimes, however, these fistulae close just under those conditions, probably as often as they fail. I would ask Dr. Dudley what tissues he brought together in closing the cavity.

Dr. Dudley.—I passed the stitches through the two coats of the sigmoid flexure of the colon and through the peritoneum on the posterior surface of the uterus, first on one side and then on the other.

Dr. Polk.—It was certainly an ingenious procedure, but I should fear to try it. I think Dr. Dudley would have got as good a result had he put in a drain and packed the cavity with gauze. For, in passing the sutures as he did, there is much risk of passing them all the way into the sigmoid flexure. If that should happen, the sutures would become septic and cause ulceration. With ulceration in the peritoneal cavity, trouble would probably arise. That, however, is theoretical. The doctor has, up to the present time, had a good result. But it seems to me that in the first instance the method suggested by Dr. Wylie is simpler and safer.

Dr. Wylie.—I think Dr. Dudley has made a mistake. This case may turn out well, yet it may not. If he had made drainage through into the vagina, I could understand that it was good surgery; but, as it is, I think he has set a dangerous precedent. Where, as Dr. Polk has said, there is pointing into the vagina, it is not necessary to open the abdomen at all before establishing drainage through the vagina. But I do not advocate puncturing where there is uncertainty. It is then better to open the abdomen and find out whether or not drainage can be established through the vagina. But I certainly should not shut up a cavity like that in Dr. Dudley's case, in the pelvis or anywhere else, if drainage could be established simply by going through the vaginal wall. Although the patient has got along well for two or three days, there are yet chances for pus to form, in which event it will still be necessary to go through the vagina, if not to perform a more serious operation.

Dr. Janvrin inquired whether Dr. Dudley found it impossible to close the fistula in the rectum.

Dr. Dudley replied that he did not find it impossible to close it, but it was surrounded by so much thickened tissue—the result of inflammatory action—that he did not think it would heal by primary intention. Aside from that, he wished to close the pus cavity below at the same operation.

Dr. Janvrin.—The doctor says he did not attempt to close the fistula. Probably it could have been closed, if he had tried. It is not, under ordinary circumstances, a very difficult thing to close a fistula in the rectum even less than four inches from the anus. I did it once myself in a case which I reported at a meeting of this Society some four years ago. It was a case in which I removed a large cyst of the right ovary and a dermoid cyst of the left ovary. The latter penetrated into the lumen of the rectum about three inches and a half from the anus. After drawing this diverticulum through the anterior wall of the rectum, a rent about an inch and a half in length was left. By reflected light and the use of very fine silk, the rectal opening was easily closed and the patient got well without difficulty. I fully agree with the ideas expressed by Dr. Wylie and by Dr. Polk regarding the treatment of these cases. I would have closed the rectal opening by sutures first, and if that failed I would have treated it as Dr.
Polk has suggested. I should have made an opening into the vagina any way, even had I left the rectal fistula.

Dr. Polk.—My remark on filling in below with gauze was based on the supposition that there was already an opening into the vagina.

Dr. H. J. Boldt.—I would mention a case which has occurred recently in my practice, in support of the views expressed by Dr. Wylie and Dr. Polk. A drain was put through the vagina, and the cavity packed with iodoform gauze, as has been suggested here. The patient got along very nicely.

Dr. Dudley.—The President saw this case, and I would ask him whether pus could be detected readily between the rectum and vagina, below the pyo-salpinx.

The President.—I was not certain that there was pus between the vagina and rectum. I made a somewhat hasty examination, but was thoroughly convinced that there was a pyo-salpinx and that there was pus below the plane of the broad ligament. But it did not burrow down deep, I should judge. Perhaps at the time that I examined her the pus in the cavity below had been forced out while straining at stool. I was not present at the operation. There is this fact to be considered in the treatment adopted by Dr. Dudley, that he has still a rectal fistula which he does not expect to close, and consequently he has the possibility, if not the probability, of further disagreeable symptoms, perhaps dangerous ones.

Dr. Janvrin remarked that the important thing to do in these cases was to close the opening into the rectum. An opening into the vagina was to be preferred to one into the rectum.

Dr. Dudley.—In defence of my method of operating, I would like simply to say that I was unable to diagnosticate pus below the vaginal junction before opening the abdomen, because the sac was only a little broader than my finger, and the attachment of the rectum to the pyo-salpinx was in such a position that, had one attempted to puncture through the vaginal junction, he would have gone through the rectum, the gut was so drawn up by adhesions. There was no infiltration of the vaginal vault. As it appeared afterwards, but could not be detected previously, there was a cavity formed by pus which had burrowed through the junction. I closed that cavity over for fear of trouble there. My reason for closing it over was to have a clear peritoneal cavity rather than have any drainage tube communicating with it from below. But before I closed over the cavity I took the precaution to thoroughly curette the walls with a sharp curette. I not only took out the pyogenic membrane, but refreshed the wall. I also curetted the dead tissue on both broad ligaments behind the uterus, even above the vaginal junction. As already stated, I did not close the opening in the rectum, because it was half an inch thick, containing infiltrated tissue, and I should not expect to get union if I put sutures into it. But I curetted it well, until fresh blood ran; then turned the two cavities together and let them fill with fresh blood. In that way, I expect not only to have closure of the opening into the rectum, but to prevent recurrence of the abscess. I believe the thickening now present is blood clot. There has certainly been no escape of gas; there has been no chill, no rise of temperature; the bowels have moved. Union is taking place by first intention, which was my object. If a pus cavity form again, I shall know just where it is, and can drain without
reopening the peritoneal cavity and without puncturing the rectum. In any event I am on the safe side, and, with due respect to the judgment of the gentlemen who have spoken, I think I should repeat the operation under similar circumstances. I think Dr. Polk and Dr. Wylie would have treated this case in the same way, had they seen it, or at any rate would have excluded the pyogenic membrane and infiltrated rectal tissue from the general peritoneal cavity.

EXTRA-UTERINE PREGNANCY—RUPTURE—LAPARATOMY—RECOVERY.

Dr. W. Gill Wylie.—I have a specimen here from rather an interesting case. I do not like to say too much about it; for, although the patient is now doing well, this being the fifth day and the temperature having been at no time above 101° F., yet it is somewhat early to report that the patient is well. It is really a case of Dr. Jacobus', and I would like him to give the history prior to the operation.

Dr. A. M. Jacobus.—The patient is about 22 years of age, and has been under my care about three years. She has had large, tender ovaries, the right one being, last summer, as large as an English walnut. She has been married seven years; had a miscarriage, at the second month, the first year; has been sterile since. She had also an anteflexed uterus, which I dilated, hoping to get her in a condition to become pregnant. About the middle of last March she sent for me on account of severe pelvic pain which followed an attack of vomiting. She said she had not been unwell since between the 4th and the 12th of December last. In the latter part of December, while walking on the street, she had a very severe attack of pelvic pain which nearly caused her to faint. She had some nausea through January, but did not menstruate. Early in February she began to have a little red flow from the uterus, which continued until near the end of the month. During this time she had occasional nausea; the breasts became slightly enlarged, and she went about, being fairly comfortable.

In the middle of March, when she sent for me, I examined her; found the cervix soft and prolapsed, and a condition which at first appeared like a retroflexed pregnant uterus of the third or fourth month. But on more careful examination I found a large cyst to the right of and posterior to the uterus, and yet the tumor and the uterus were so intimately connected that there was no line of demarcation. She said she suffered from very severe bursting or tearing, intermittent pains, which almost took her breath away at times, and that whenever she had attacks of nausea and vomiting these terrible pains would recur. A number of times when I saw her the pulse was about 95 and the temperature about 99° F.

I suspected that it was a case of extra-uterine fetation, probably abdominal, yet, as just stated, there was something about the case which simulated a retroflexed pregnant uterus; but the more I thought of it the more I became convinced that it was ex-
tra-uterine pregnancy. A bromide and antipyrin mixture was given to relieve the pain and nervousness. Meanwhile, the question whether to use electricity, to watch, or to do a laparotomy was under consideration. Last Wednesday night, about 9 p.m., the patient's husband came for me while I was out, and left a message to call at once, as his wife was in terrible agony (the pain in the pelvis having come on with vomiting), and that she had been unconscious for a few minutes. I returned about 1 a.m., and expected, on going to the patient's house, to find her dead from hemorrhage; but they had given her a dose of morphine, which quieted her, and, the alarming symptoms having passed off, all had gone to bed. Judging by the pulse and general appearance of the patient that she could not have had much hemorrhage, if any, and that no further immediate attention was necessary, I left directions to have Dr. W. Gill Wylie see the patient with me the next morning early, and to perform laparotomy if deemed advisable.

Dr. Wylie.—I saw the patient Thursday morning last with Dr. Jacobs. Her pulse was rapid, the temperature not very marked; there were apparently no urgent symptoms. As well as could be made out on examination, the uterus was forward, displaced to the left, and a large mass was in the right of the pelvis, low down and fixed. I took it for granted there was fluid in it, and said it was one of two things—either extra-uterine pregnancy or a cyst with some inflammatory material around it; that the best thing to do was to have the patient enter my Sanitarium, where the abdomen could be opened and whatever was necessary could be done. She was removed that afternoon, and I arranged to operate the next day. She came over without any great difficulty, but the next morning I was much disappointed to find that she had an exceedingly rapid pulse, showed a good deal of pallor, the temperature being about 101° F. in the axilla. Seeing this condition, we prepared for operation at once. She struggled rather violently going under ether. The pulse then was not less than 130 per minute. I opened the abdomen, which was rather tense, and as soon as I entered the peritoneal cavity we noticed fluid serum and large black clots matted in the omentum; throughout the pelvis and up in the abdominal cavity were similar clots, some as large as one's hand. The distention of the abdomen was almost wholly due to the blood clots. There was one striking peculiarity about the blood clots: evidently the bleeding had taken place at intervals, for some of the clots were free, having no exudation upon them, while one or two had large, distinct fibrinous exudation around them, simulating the condition which I have seen in the pelvis many times, and which I had always thought were really cysts of the ovary. I was satisfied some of the blood forming the clots had escaped some hours before the rest, and had time for the formation of a membrane around them like that covering
a cyst. I confidently believe that, in many cases in which we have found cysts, the formation was due to exudation from the peritoneum covering in a foreign substance, and often taking on a round, cyst-like shape.

I had no difficulty in getting the clots out, although they were strongly adherent in places, being entangled in the omentum. After clearing the cavity pretty well, there seemed to be a good deal of hemorrhage, but it was dark (venous). I readily separated everything from the cyst, which was not adherent above, but firmly fixed in the pelvis below. I attempted to enucleate it entire, but, before getting well down, it burst and this baby slipped out into my hands. Then I readily enucleated the whole mass, including the placenta, which was under the broad ligament, the broad ligament being rolled back over it as in pyo-salpinx or ovarian disease. Whether the baby was in the tube, in the ovary, or under the broad ligament, tube and ovary being over it, I cannot say. I passed a needle well down in the broad ligament, close to the uterus—to cut off the blood supply, if possible—to tied the sur- ture, but found there was still severe hemorrhage, and the pulse had become imperceptible at the wrist. The patient was gaspi- ing, apparently dying. I had ready, as I always do in laparatomy, a vessel containing two gallons of hot water kept at a temperature of 112° F., connected with a fountain syringe to allow the hot water to run into the abdominal cavity at once if called for. I brought out that idea some years ago as a means of reviving patients during operations, and I have never seen its advantages demonstrated better than on this occasion. The patient rallied almost at once on leading the hot water into the abdomen. The tube carrying the water played even up to the diaphragm, and instead of increasing the shock it revived the patient, and I think prevented death on the table. While this was going on, the nurse was instructed to inject into the gut every twenty minutes a strong saline solution of beef tea or beef peptone. I am satisfied that did good; that in such cases it enters the blood almost as soon as it is thrown into the rectum. By these means the patient was kept up until the abdominal cavity was cleared, the placental site searched, a suture passed below the broad ligament which checked the greater part of the hemorrhage, and, although there was still some oozing, the patient's condition was such as not to justify more prolonged search. The abdomen was then washed with more hot water, which further revived the patient. I then took a large piece of gauze, long in shape, pushed it well in against the bleeding surface, and rapidly sewed up the abdomi- nal wound. I did not put a drainage tube in, but caught the end of the pedicle with a pair of strong forceps, and brought the forceps carefully up, so that I had the pedicle suspended in the opening of the wound, surrounded by gauze. Veins put on the stretch in that way will often cease bleeding, but if dropped back they will ooze.
The patient was in a very low state through the night, but rallied, and the next day was in very good condition. She has steadily improved, the temperature being 101°F., the pulse about 100. There has been no abdominal distention; the bowels have moved, and it seems she will recover. She is menstruating today. I removed the forceps the next morning, giving plenty of time for blood to clot. The next day I removed the gauze. It gave some pain, but acted beautifully as drainage. A great deal of the water left in the abdominal cavity when the gauze was put in and the abdomen closed oozed out into the dressing.

Dr. Jacobus added that there was no history in this case of the decidua or clots escaping from the uterus.

Dr. J. E. Janvrin said he understood that in this case there had been several attacks of severe pain, and also, as Dr. Jacobus had stated, some sanguineous flow. He thought these attacks of pain were due, as he had often expressed his belief on other occasions, to rupture of small blood vessels in the peritoneum covering the tube which contained the fetus. Dr. Wylie had spoken of different strata of blood, which would be accounted for in this way. He thought Dr. Wylie's remark, that none of the blood clots seemed to be old, did not invalidate this statement. Finally rupture of the tube took place, and the fetus escaped downward beneath the broad ligament. This view of the progress of tubal pregnancy had also been entertained by Dr. Arthur Johnston of Danbury, Ky., and also by Mr. Tait.

Dr. Jacobus remarked that the fluid contained in the sac was purely amniotic.

Dr. Wylie said the hemorrhage was not into the sac, but apparently into the peritoneum, and came from the placental site. The fluid in the sac was clear. He had not said that the sac had ruptured.

Dr. Janvrin remarked that as a rule, where rupture had gone on to any extent, certainly the amniotic fluid escaped, and the fetus also. He asked whether the hemorrhage in this case came simply from distention and tearing of the posterior surface of the broad ligament, and Dr. Wylie replied that, as nearly as he could tell, that was the fact.

Dr. Janvrin repeated that he thought the case was confirmatory of the views which he had expressed three or four years ago, that with the attacks of colicky pain there were slight hemorrhages on the peritoneal surface of the sac; later on, the sac itself ruptured, and if the fetus was in the tube it escaped directly into the abdominal cavity; but in this case rupture did not take place directly into the peritoneal cavity through that portion of the tube which lay above the ligament, but downward behind the ligament.

Dr. Jacobus expressed the opinion that hemorrhage had not taken place in this case until Wednesday night, two nights previous to the operation.

Dr. Janvrin said that the only difference of opinion between him and Dr. Jacobus was that Dr. Jacobus did not think the attacks of pain from which the woman had suffered were attended with hemorrhage. Dr. Janvrin thought there had been slight hemorrhages, and that they had been quickly absorbed.

Dr. Jacobus did not deny that this was possible.
Dr. Dudley was reminded by this case of one operated upon last year by a friend. It was a case of tubal pregnancy which had burst some twelve hours before the doctor arrived, and he found the abdomen full of blood. The shock was very severe. He had great difficulty in removing the fetus and the after birth with the tube, yet the patient recovered. In that case the abdomen was washed out, and shock was anticipated by the use of hot water. He regarded this as a wonderful means for restoring the pulse and preventing shock, and he believed it alone saved Dr. Wylie's patient. In the case which he had related this evening, he washed out the abdomen four times with hot water, and each time the pulse showed that under its influence the patient rallied at once.

Dr. C. A. Von Ramdohr.—I would to a certain extent criticise this case. I had the good fortune to have a patient recover recently after rupture of a tubal pregnancy. The attending physician came to me and said that he had a case of extra-uterine pregnancy which had ruptured the day before: that the woman's abdomen was full of blood; that he desired me to come along; and have her removed to the hospital at once and operate. When I arrived I found the woman absolutely blanched, almost pulseless, the hemorrhage still going on. It was impossible to operate at the house of the patient, and I absolutely refused to have a hand in removing her for fear of impending acute anemia. I advised that she be let alone until she had recovered from the shock. She was left four or five days; she recovered to a certain extent, got a better pulse, and was then taken to the hospital. The fetus was a large one. I will show it at a future meeting. There was not a particle of hemorrhage started by the transfer to the hospital. The temperature was then 102° F., and it was time to operate. The abdomen was opened. Many blood clots were removed, differing in color. The fetus lay among the intestines. The tube was so adherent that it was impossible to remove the sac, the whole pouch of Douglas being a part of the sac. The fetus and placenta were removed. The oozing seemed not to completely stop, but, owing to weak heart action and the former loss of blood, the larger hemorrhage had ceased. The sac was sewed into the abdominal wound. The hot-water washing had immediately improved the pulse. The anesthetic was taken badly. A small opening was left in the lower part of the abdominal wound, and iodoform gauze put in. As there was still hemorrhage when I was about to leave, I tamponed the vagina as an expedient for getting counterpressure. The hemorrhage then ceased. The temperature did not rise above 100° F. At present the sac cavity holds at times half an ounce of fluid. It has grown much smaller than it had been. The woman is getting well.

The first point to which I would call attention in this case is that the woman was not removed for operation at once, through fear that she might die on the way. The second is that counter-pressure by tampon through the vagina stopped the hemorrhage, which could not be stopped by packing the sac alone through the abdominal wound. Of course it was not safe to make too great pressure within the sac itself.

Dr. Polk.—Mr. Tait has called attention to the fact that in these cases the hemorrhage comes mainly from the ovarian artery, or, if not from the ovarian, from the uterine artery; and that if a strong-ligature be passed down and tied close to the pelvic wall,
the hemorrhage will cease. I was able to verify that in a case of extra-uterine pregnancy. The ligature immediately controlled the hemorrhage. I understand Dr. Wylie used the clamp simply to hold the pedicle up.

DR. WYLIE.—That is all.

DR. POLK.—There is no objection to placing a clamp on these points, and leaving it on twenty-four hours, provided there is not a slot in which the intestine may become engaged. A good long clamp will answer the purpose perfectly. But I would suggest that in cases of extra-uterine pregnancy Mr. Tait’s method will control hemorrhage. It may be accomplished by the use of clamps, even two or three being used if necessary, and thereby shortening the operation.

DR. JACOBUS thought Dr. Wylie, in reporting the operative procedure in this case, had not laid sufficient stress on the severity of the hemorrhage. Blood seemed to be welling up from the whole floor of the pelvis.

DR. POLK asked whether Dr. Wylie had tied close to the uterus, taking in the uterine artery, and again whether he had put a ligature around the outer side of the broad ligament.

DR. WYLIE replied that he had tried to carry out the idea suggested by Dr. Polk, of tying the uterine and ovarian arteries, and still there was hemorrhage. Therefore he packed the cavity with iodoform gauze.

THE PRESIDENT.—It would seem that, as suggested by Dr. Wylie, the hemorrhage had come from the vessels which went to supply the placenta, and which, from once having been small, had increased in size with the development of the fetus.

DR. POLK.—Will the President establish the anatomical connection of the placental circulation?

THE PRESIDENT replied that it might be and would be through any blood vessels wherever the placenta had been attached. These vessels grow so rapidly that a few weeks only are necessary for their development, and when the placenta was torn off, unlike the uterine blood vessels, they will not close quickly.

DR. BUCKMASTER suggested there might be some abnormal distribution of the arteries.

THE PRESIDENT, continuing his remarks, said: This case of Dr. Wylie’s is another illustration of the difficulty which often exists in diagnosticating extra-uterine pregnancy. In this case the operator was unable to tell whether the pregnancy was tubal, ovarian, or abdominal; nor was he able, notwithstanding great skill and large experience, to tell whether the tube had ruptured. Now, if Dr. Wylie could hardly tell in this condition what to do, what should one expect of the surgeon in the country, who has perhaps never seen an abdomen opened? If he undertake to operate, what can be expected but death? For that reason, I think if the physician in the country sees a case of extra-uterine pregnancy in the first, second, or third month, he is justified in employing electricity to destroy the fetus.

DR. VON RAMDOHR.—A word with regard to tying the uterine artery. On one side, in my case, it was very easily tied. On the other side it would have been extremely difficult. There was left lateral version, and it would have been almost impossible to get the needle through. It would have been necessary in this case to make a cross incision in the abdominal wall or to open the abdomen further, and the bleeding was not sufficient to call for it.
Dr. Polk.—Dr. Von Ramdohr says he tied on the side. Does he mean at the side of the uterus or at the side of the pelvis?

Dr. Von Ramdohr.—The side of the uterus.

Dr. Polk.—If one tie on the side of the uterus, the hemorrhage will continue; if he tie at the side of the pelvis, it will be cut off. I did not understand Dr. Wylie to say that he tied the broad ligament at the pelvic wall.

Of course in this case there was a possibility of abnormal anastomosis. An extra-uterine pregnancy develops primarily, according to the latest anatomical observations, in the tube; and, if that be true, it must necessarily receive its placental blood supply from the ovarian vessels. If, then, the ovarian vessels be tied on the outside, this must necessarily control hemorrhage from the placental site. But if the placenta can attach itself indiscriminately in the pelvis, of course this statement falls.

Dr. Janvrin asked whether the fetus was dead, and Dr. Jacobus replied that it was not. Dr. Jacobus went on to say that it was not everybody who believed as Mr. Tait did in this matter of the attachment of the placenta. He did not believe that in this case it was in the tube at all; it was attached to the floor of the pelvis, and the broad surface was like a sponge welling up blood; and there were cases on record in which the placenta was attached to the intestine.

Dr. Polk remarked that, if he understood the case correctly, the gentlemen did not know where the placenta was attached; they only believed. What was wanted was facts.

Dr. Wylie remarked, with regard to the country physician using electricity, that in his opinion, if he discovered what he believed to be a case of extra-uterine pregnancy, and was not able to operate himself, he should send for the expert at once and have laparotomy performed.

The President.—It might be some distance from an expert, and the latter when sent for might not be able to go before the next day or later. I do not urge electricity because a laparotomy is not justifiable in good hands, but because it cannot safely be performed by all, while electricity is safe in nearly all hands.

Dr. Wylie.—If he could make a diagnosis early enough to use electricity, he would have time to send for an expert.

The President.—One never knows how difficult the operation may prove. If it should turn out as difficult as in the case just related by Dr. Wylie, there are but few surgeons who are sufficiently expert to save the patient. Many of us would be unwilling to trust the case of our own wife to the general surgeon, while electricity can postpone the necessity of an operation until the best man is secured; and perhaps it may prevent all necessity for a laparotomy.

Dr. Wylie.—I think the belly ought to be opened in doubtful cases. It is a very simple procedure, attended with very little risk. If there be an extra-uterine pregnancy, take it out. One may kill the fetus with electricity, but it does not cure the case. Dr. Von Ramdohr criticised me for removing my patient. I did not know that the patient was bleeding; in fact, I did not know that it was a case of extra-uterine pregnancy. I had her removed because her condition warranted it and because she would do better in the hospital. I should have considered myself a very guilty man had I removed her and known at the time that bleeding was taking place. I should have operated at once.
A fact in the case which I wish to emphasize is the great difficulty of diagnosis. This very commonly occurs, and usually where a positive diagnosis is made it proves erroneous. But, in any event, whether it be a case of cyst, of salpingitis, or of extra-uterine pregnancy, the abdomen should be opened. In forty-nine cases out of fifty, if it turn out to be extra-uterine pregnancy, recovery will follow the operation, by whomsoever performed, if the man has had any experience with abdominal surgery. The trouble is, we do not see the cases; they die from just such management as in Dr. Von Ramdohr's case—from being let alone. I believe the condition is more common than physicians had ever dreamed of until they began to open the abdomen and learn something about it.

Dr. H. J. Garrigues (by special request) made the following report on

SPECIMEN OF HUMAN MONSTROSITY PRESENTED TO THE SOCIETY BY
DR. H. J. BOLDT AT ITS MEETING ON DECEMBER 18TH, 1888.

The specimen has a flattened ovoid shape. After having lain in alcohol, it measures 8 centimetres in length, 7 in width, and 5 in height. A small piece of the umbilical cord is attached to it. This point we will call the top. It is surrounded by a shallow furrow. The whole body is covered with a coarse cutis with epidermis, and a very sparse growth of short, thin, light-colored hairs from 3 to 5 millimetres long. The skin is of a yellowish-gray color, and shows very large pores sitting close together and formed by the intersection of short furrows.

Opposite the insertion of the cord is found an irregular, roundish area, about 2 centimetres in diameter, where the skin is thin, smooth, white, without hair or sulci. It has a tail-shaped con-
Obstetrical Society of New York.

tinuation, 2.5 centimetres long and 5 millimetres wide, of the same character, which goes off in a straight line to the right.

On the anterior surface, respectively 5 and 9 millimetres below the umbilicus (above and to the right in the figure), are found two small bodies—one pear-shaped, 15 millimetres by 5; the other globular, 5 millimetres in diameter. They are only parts of the common skin, which are surrounded by a shallow sulcus.

To the right of the umbilical cord (above and to the left in the figure), and in contact with the cord, is found a group of seven prominences. The two largest of these have a lip-like appearance, having a convex outer and a concave inner surface. To the right and behind these is a pedunculated little tumor of a whiter color than the other skin. The four others are only slightly prominent tubercles at the base of the other three. The whole group occupies a circular space 3 centimetres in diameter.

The specimen having been lying in alcohol, it was not possible to inject the vessels. In the cord could be distinguished two large, tortuous vessels, which on entering the body broke up into numerous branches.

An incision is found through the bottom, opposite the insertion of the umbilical cord. This shows that the body has one large, round internal cavity, lined with a thin membrane which can easily be peeled off from the wall (peritoneum). This cavity is said to have contained a serous fluid.

The wall may be divided into two parts of nearly equal size—a thin part, increasing gradually from 1 millimetre at the smooth white bottom to 8 millimetres where it joins the other part; and a thick part measuring 2.5 centimetres. The latter carries the umbilical cord and all the above-mentioned prominences.

The wall is everywhere formed of fibrous tissue, as ascertained microscopically. There is no trace of any organ or other tissue, except numerous vessels and, at the bottom of the space separating the two above-described lip-like protuberances, a small bone. This reminds one of the shape of the third phalanx of a finger. It is 1 centimetre long, 5 millimetres wide, and has a broader base which nearly reaches the central cavity, and a rounded apex pointing toward the surface. It consists of two distinct parts. One is a thin shell of hard, white bone, with the convexity turned backward and to the right (opposite in the engraving). The other is composed of small, irregular, roundish masses like peas. There were three such bodies: one was removed for microscopical examination, the two others remain in place. They lie in the concavity of the white shell. Each of them is again composed of a little bony shell and a round central mass.

Microscopical examination by Dr. Herman M. Biggs has shown that the wall is composed of a rather dense, fibrillated connective tissue. It contains a considerable number of small, well-formed
blood vessels, numerous sweat glands, and hair follicles with well-formed sebaceous glands.

So far as I have been able to find by a research of the works on monstrosities found in the public libraries of this city, it is the first time that a specimen of so low a degree of organization has been found in a woman. Gurlt saw two in cows, and was the first to describe them well.¹

The large treatises on monstrosities by Tarulli² and Ahlfeld³ have not yet reached this kind of monster, which shows the lowest degree of organization known in mammalia and the human race.

Foerster⁴ does not mention any lower type than an amorphus described by Vrolik.⁵ Vrolik describes it under the heading acephalia, and it is much more developed than our specimen. In the interior were found a knuckle of intestine, bodies of vertebræ and other irregular bony masses, muscular layers, a rudimentary spinal marrow with nerves departing from it, and a dura mater. Bland’s amde showed likewise a much higher organization, having a small brain, medulla spinalis surrounded by a bony theca and giving off nerves through the foramina of the bone.

The only work in which I have found a body similar to ours described is that of Geoffroy Saint-Hilaire. This author had never seen one himself, and says that in his description of it he chiefly follows Gurlt, and he reproduces the two figures given by the latter of the body unopened and cut open lengthwise.

In order to show the correctness of my diagnosis, I beg to submit a translation of Saint-Hilaire’s description:⁶ "This body is an irregularly globulous or ovoid, sometimes pyriform, mass. Gurlt does not say so, but his figures, as well as Ruysch’s plate, show that the shape of this mass is more or less lacking in symmetry. The very thick skin is uniformly covered with hair, except at the two ends of the body. At one of them is found the insertion of the umbilical cord, sometimes nearly in the median line, at other times removed to a side. At the other end is seen a nude place surrounded by a shallow furrow. To this nude place correspond interiorly a cartilage and one or several bones, the shape of which is so irregular that it is not possible to establish their analogy. These are the only vestiges of a skeleton, and besides them are

² Cesare Tarulli, "Storia della Teratologia," in six volumes, of which five have been published, the last in 1889.
⁴ August Foerster, "Die Missbildungen des Menschen," Jena, 1861.
⁵ W. Vrolik, "Tabulæ ad illustrandum Embryogenesin hominis et mammalium, tam naturalem quam abnormem," Amsterdam, 1849, plate 46, figs. 1, 2, and 3.
⁶ Loc. cit., p. 534.
only found in the interior of the body cellular tissue, a serous fluid, fat, and two vascular trunks—one arterial, the other venous. These trunks, prolongations of the umbilical artery—which is single in these monsters—and the vein of the same name, extend almost in a straight line from the umbilicus to the opposite end of the body, and end there after having given off some lateral branches."

It is evident that this description in all essentials tallies with our specimen, and if we examine the figure taken from Gurlt's work the similarity becomes still more striking. The only differences are: 1st, that in his there was a large central artery and vein extending from the umbilical cord to the opposite end of the monster and sending outside branches, while in ours numerous smaller branches go off near the insertion of the umbilical cord and spread all through the walls of the body; 2d, that the bony mass in Gurlt's case is found at the opposite end of the body, in ours near the insertion of the umbilical cord; and 3d, that our specimen shows a distinct serous lining membrane, which is not mentioned in Geoffroy Saint-Hilaire's description, but which may have been present and overlooked or not mentioned.

Geoffroy Saint-Hilaire does not mention the protuberances found on the skin. Still, they are found on nearly all these globular specimens in a smaller or larger number, and can therefore hardly be accidental. On the above-mentioned monster of Vrolik there were four; on Gurlt's figure we see one, corresponding to the bony mass inside; in Bland's 1 figure one; in Panum's 2 specimen, represented in his figure 9, there appear three.

On our specimen these protuberances are in all nine in number, but they differ much from each other. The two on the front (to the right in the engraving) have a distinct sulcus at their base, but do not protrude beyond the level of the skin. Of the other group, I would leave the four outer ones out of consideration as merely slight thickenings of the skin without any significance. The two largest (to the left in the engraving), which I have designated as lip-like, and which correspond symmetrically to one another, I am inclined to look upon as the two halves of one whole which likewise is surrounded by a furrow. The remaining protuberance (to the left and below the others in the engraving) has so deep a furrow that it becomes pedunculated. This last one does not contain anything but the same mass of which the whole body is made up. At the bottom of the space intervening between the two former we find a bone, just as in Gurlt's specimen.

In my opinion these four protuberances, as well as similar ones on other specimens, are rudimentary extremities. This view is

1 Philosophical Transactions, 1781, voi. lxxi., p. 363, with table p. 370.
2 P. L. Panum, "Bidrag til Kendskab om Misfostrenes physiologiske Betydning," Copenhagen, 1877, p. 15 and table i., fig. 9.
corroborated by a specimen of Panum's\(^1\) which had a higher organization, but where there is a protuberance forming the stem of the pear shaped body, and containing bones which that learned physiologist interprets as the three phalanges of a finger.

It must likewise be more than accidental that several of these globular monsters—even Ruysch's, which came from a cow and was covered with long hair all over the rest of the body—have a nude place opposite the insertion of the umbilical cord. In our specimen this place is at the same time the thinnest part of the whole body, composed of only a very thin layer of skin and the lining membrane. I wonder if this is not an unsuccessful attempt at the formation of an anus.

All cases have, like ours, been found in twin pregnancies. The only one in regard to which we have no information on this point is Ruysch's.\(^2\) According to Hempel and Claudius,\(^3\) the twin pregnancy is a physiological necessity in acardiaci, i.e., monsters without a heart, that continue to grow and develop themselves until birth takes place. There must be such a connection between the circulatory system of the well-developed fetus and the acardiacus that the heart of the former can furnish the circulation and nutrition for both.

Neither Ruysch nor Bland ventured to give a name to their specimens. Gurlt in 1832 called his *Amorphus globulus*, but changed it in 1877 to *Acephalus globosus*.\(^4\) Geoffroy Saint-Hilaire gave these globular monsters the generic name *Anideus* (from *α* privative and *ειδός*, shape—i.e., the shapeless), without adding any specific name. In Geoffroy Saint-Hilaire's\(^5\) system they belong to class 1, single monsters; 2d order, omphalosites (i.e., which can only live in connection with the mother to whom they are attached by an umbilical cord); 2d tribe, of which they form the unique family: the first tribe comprises the two families para-acephalous (i.e., almost headless) and accephalous (i.e., headless) monsters, which yet show the chief regions of the body and more or less developed extremities.

Tiedemann and the two Vroliks have divided all acephali into nine classes or types, of which Gurlt's *Amorphus globulus* forms the lowest.

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1. Panum, loc. cit., pp. 11 to 14 and table i., figs. 5 to 8.
All acephalous monsters are the result of an arrest of development at any period before the fourth week of pregnancy, the time when the head is formed.

To the remarks offered when the specimen was presented to the Society may be added that the monstrosity was expelled fifteen minutes after the child was born, and that the cord of the monstrosity was about fifteen inches long and much thinner than normal.

TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

(Abstract.)

Thursday, October 3d, 1889.

The President, Dr. Theophilus Parvin, in the Chair.

Dr. E. P. Bernardy read the history of a case of suppurating post-puerperal hematocoele.

The patient recovering after the performance of laparotomy.

Dr. J. Price.—I saw this patient with Dr. Bernardy and Dr. Cohen; and to have a purely medical man urge the importance of abdominal section in a post-puerperal case is very encouraging. There was a considerable quantity of broken-down blood, which was washed out with difficulty. If the case had not been a post-puerperal one, the history would have been that of an extra-uterine fention. This case demonstrates most forcibly the fallacy of claims made in regard to refinements in diagnosis, and shows the folly of claiming a positive diagnosis.

Dr. H. H. Kynett reported an interesting case of abdominal section—removal of both appendages for double pyo-salpinx and double ovarian abscesses—release of adhesions, irrigation, and drainage.

When the peritoneal cavity was opened, there was a free discharge of muddy, blood-stained fluid, indicating a marked peritonitis. Investigation showed this fluid was contained in a sac formed by inflammatory processes, shutting off the pelvic portion from the general peritoneal cavity. The adhesions, however, were friable and easily broken. Contained in this pelvic abscess cavity were four distinct pus sacs, viz., two huge pus tubes and two ovarian abscesses, the larger the size of an orange.

The removal of these sacs was not difficult; the patient recovered promptly, and is now in better health and spirits than since marriage.

Points worthy of notice in this case are:

1st. Four distinct abscess cavities within a fifth. Query, what
would have been the result of Martin's treatment of pelvic abscess by vaginal drainage? 2d. In spite of careful manipulation, both ovarian abscesses were ruptured in removal, and the walls of the containing sac were very easily broken up. Query, what might electricity, properly applied, have accomplished? 3d. When first seen, the patient did not complain of symptoms of acute trouble at all commensurate with the condition revealed. 4th. Menstruation has occurred regularly since the operation, bleeding being profuse and lasting three days. 5th. Both patient and her husband gave unquestionable histories of gonorrhea.

The second case was operated on to produce premature menopause for a rapidly growing fibroid uterus.

**ABDOMINAL SECTION—REMOVAL OF BOTH APPENDAGES FOR DOUBLE HYDRO-SALPINX AND LEFT OVARIAN CYST.**

There was also a small cyst in the right ovary. The adhesions were universal and exceedingly tough, making the removal difficult. The uterus was large and hard; irrigation and drainage.

Patient made an uninterrupted recovery, and is now sitting up. This case is particularly interesting, as before operation it seemed a fit case for electricity. The uterus being high in the pelvis and large, the condition of the appendages was not easily discoverable. Irrigation and drainage were used, for fear of hemorrhage from the separated adhesions.

The third case.

**A MILK CYST,**

is interesting on account of the comparative rarity of the tumor.

It was removed September 8th, 1889, from the breast of Mrs. P., white, age 32, married six years, two children. When the patient began to menstruate, at the age of 16 years, she first noticed a small lump in the left breast on a level with the nipple. It occasioned no trouble. It remained quiescent during her first gestation and nursing—in fact, until three months after her second child was born, when it began to enlarge. She never had any difficulty in nursing, but remarked that after the tumor began to grow she had less milk in the left breast. At this time, also, the tumor pained her for a few days and led her to fear an abscess. The pain subsided, but the enlargement continued. She was afraid of cancer, and desired the tumor removed.

When seen, the tumor was somewhat larger than it now is. The skin was normal in appearance and freely movable over the mass. The superficial veins were enlarged. The nipple was not affected, and the growth appeared outside the areola. It was firmly adherent in the glandular structure of the breast, and required dissection by the knife. Its contents had the greasy, sticky, cheesy appearance of a dermoid cyst. There were no other points of thickening or hardness discovered in the breast.

I believe it to be a solid milk cyst. Microscopic examination has not yet been made.
REMOVAL OF A LARGE OVARIAN CYST, FOLLOWED BY RUPTURE OF
THE RIGHT COMMON IliAC VEIN.

DR. W. L. TAYLOR.—The patient of whose condition I beg to
present the following history was sent to me by Dr. D. L. Hetrick,
of Bedford County, after he had diagnosed the existence of an
ovarian cyst.

Miss L. M., æt. 21, single, tall, very much emaciated; abdomen
enormously distended; puberty at 19; menses regular for three
years, until July, 1887. Two weeks before her menstrual period,
whilst in the harvest field, after drinking a large quantity of cold
water, had a severe chill. Menses failed to appear in July and
August. In September, 1887, the menstrual flow appeared, but
there was no discharge again until March, 1888, when there was
a slight flow for three or four periods, disappearing then until
after the operation. In November, 1887, had an attack of malarial
fever, but never was well after the chill in July. After this at-
tack of malaria, a lump appeared in right side of abdomen, which
never caused any pain, but only a sense of discomfort from pres-
sure, and which increased rapidly in size.

Upon examination, the abdomen gave evidence of the presence
of a very large encysted fluid, ovarian in character. On July
7th I operated with the assistance of Drs. W. A. Carey and E.
R. Kirby, and removed a non-adherent cyst of the right ovary.
The fluid of the cyst was syrupy and very heavy, weighing fully
fifty pounds. The pedicle was unusually thick, and was tied in
sections, and finally with a Tait ligature. The steps of the ope-
ration were devoid of special interest, and but little cyst fluid or
blood escaped into the abdominal cavity. This was thoroughly
washed out, and I remarked the absence of bleeding points, and
proceeded to protect the intestines preparatory to the insertion of
my parietal stitches. Noticing a slight oozing of blood from the
region of the pedicle, I investigated, and found that a couple of
veins, which were greatly distended, had ruptured just beneath
my ligatures. These I tied securely, and removed cloths. Whilst
doing this, I noticed higher up—fully as high as the sacro iliac
juncture, and to the right side—what appeared like an adherent
intestine, rapidly distending, with a central portion most dis-
tended. This rapidly thinned out, and gave every appearance of
speedy rupture. Touching it gently with my finger, it burst in-
stantly, and there was a frightful gush of blood. I quickly
grasped with my fingers the bleeding vein, for such it proved to
be, and once more it broke down. I then caught it with a large
Pean forceps, which imperfectly controlled the hemorrhage, and,
guideing with my left index finger a large curved needle, I sepa-
rated the vein from its artery and carried ligatures securely
around it. These immediately stopped all hemorrhage, but
caused a very decided and alarming venous swelling on either
side of my ligatures. I removed the large quantity of blood carefully with my hands, and, fearing to even irrigate, closed up after introducing a drainage tube. At the close of the operation, which was lengthened by the hemorrhage from three-quarters of an hour to nearly two hours, the patient's pulse was 160, temperature subnormal, and respirations about 40. Everything certainly pointed to a positive recurrence of hemorrhage, and she was most carefully watched.

Convalescence, however, was rapid and uninterrupted, and patient returned home in about four weeks. The size of the vein from which the greatest hemorrhage occurred was, without doubt, much increased at the point of hemorrhage. This dilatation fitted in a sulcus in the cyst wall, and needed only the removal of its support—the cyst wall—and the sudden reflux of blood to cause its over-distention and rupture. Its location and relation to the artery, and its size, proved it to be the right common iliac. The possibility of such a varicose condition of either of the iliac veins should deter us from emptying a large cyst too quickly, or from turning it out whilst but partially emptied. A smaller canula and complete removal of fluid before the sac is drawn out would be much safer, and render less likely an accident which, though infrequent, is yet possible. Here and there, filling up the sulci in the tumor wall, or the interstices between lobules, these large veins are apt to distend, and the greater the pressure on either side the greater will be this distention and thinning of the coats of the vein to the extent of the space. As long as the return of blood is hindered by the pressure of the tumor, and as long as this thin-walled venous sac has the support of the tumor wall, there is but little risk of rupture from over-distention. But remove this support suddenly, remove at the same time this interference with circulation, and we have, as in my case, a hemorrhage almost uncontrollable. It is almost impossible to conceive of ligation of such a large and important vein without some interference with circulation, at least some edema. But collateral circulation is plentiful between the two sides, and in my case all the veins were so enormously distended below the tumor that a compensatory circulation was soon established.

Three months after operation, patient is rapidly gaining flesh and is well.

Dr. William Goodall.—This seems to be a unique case. I have never met with anything of the kind. The theory of a varicose condition of the veins is a plausible one. I have never seen anything like it in simple unadherent cysts. In intraligamentary cysts I have often torn deep-seated veins, and have had difficulty in checking the hemorrhage.

Dr. Drysdale.—Accidents of this kind must be very rare. I have never met with anything of the kind. I imagine that it could only happen where the walls of the vein are diseased, or torn during the operation.
Dr. E. W. Cushing, Boston.—I have no knowledge of any case of rupture of a vein during operation, except from injury. I do not see how the removal of pressure could cause rupture in one place, where all of the veins are varicose, although I have known this to cause syncope.

Dr. J. Price.—I think that there is great danger of wounding the vein by the use of the Baker Brown or Peaslee needle. I think that there is one case on record in which the operator stuffed towels into the abdomen, and put the patient in bed to die, without any attempt to secure the offending vessel. These accidents have occurred from traumatism, from manipulation and wounds made by the use of instruments.

Dr. William L. Taylor.—The hemorrhage occurred so long after any traumatism could have happened, and was so much higher than the pedicle, that I think it cannot be attributed to traumatism. The hemorrhage was spontaneous. It did not occur gradually, but there was a sudden gush of blood following the touch of my finger.

Dr. Theophilus Parvin reported

A CASE OF TUBAL PREGNANCY, WITH SPECIMEN.
Probable diagnosis, and removal prior to rupture. Diagnosis was confirmed by operation. Recovery.

Dr. J. M. Baldy reported

A CASE OF TUBAL PREGNANCY, WITH SPECIMEN.
Non-diagnosis, but removal prior to rupture. Recovery.
He emphasized the following points, viz.: The case is one of primary or unruptured tubal pregnancy. (There are now four such cases on record from this city alone, viz., Dr. J. Price's, Dr. Goodell's, Dr. Parvin's, and my own.) The patient is a colored woman, which is rather rare. The patient did not have a long period of sterility, but was bearing children regularly. There was at no time a sign of a decidual discharge. There was at no time the slightest subjective or objective sign of pregnancy.

Dr. E. W. Cushing, Boston.—The subject of extra-uterine pregnancy is one of great interest to me, and I can say, from sad experience, that it is not easy to make a diagnosis. After some obscure symptoms of irregularity of menstruation, etc., a near relative was taken suddenly with a severe attack which, after the event, I felt was due to a tubal pregnancy ruptured into the broad ligament; she finally recovered without operation. This turned my attention to the subject, and I looked up the specimens in the Harvard Medical School, which Dr. Parker photographed and I published. In another case, of which I saw the specimen, a gentleman operated for an ill-defined tumor. The cyst was opened after the operation, and a fetus three-fourths of an inch in length found. There had not been a suspicion of pregnancy.

I believe that almost every one agrees in regard to the difficulties of diagnosis, and I believe that pretty much every one here agrees as to the necessity for surgical treatment; yet, as a subject
for debate here, I would suggest in opening this discussion that there may be cases where a man may suspect extra-uterine pregnancy, but yet be not sufficiently certain to operate, or not be able to get permission to do so, or he may be unable to do an abdominal operation himself or secure the services of one who can. I would suggest that under such circumstances the use of the faradic current is not only justifiable but prudent. This would be proper only in the earliest stages, before the fetus has reached such development that it would leave behind a source of irritation and suppuration. I think that the condemnation of the electric treatment in the early stage has been too sweeping and severe. Certainly the terrible cases which are recorded from attempting to puncture the fetal sac, especially at a later date, are not likely to be repeated.

Dr. William Goodell.—In regard to the electrical treatment of extra-uterine fetation, I must confess that I was theoretically inclined to believe in it. But when I had met with cases of extra-uterine fetation, and I saw the mass that was present and the adhesions and injuries which adjacent organs had sustained, I could no longer uphold it. In my opinion electricity should be reserved for those cases in which the woman absolutely refuses any surgical operation, or where the physician is not a laparatomist and he cannot secure the services of one. The amount of adhesions is, however, so great, and the injury done the appendage so severe, that the woman cannot in any case conceive on that side. This was apparent in the case reported by me to the Society in which I operated previous to the rupture. In this case, indeed, the appendages of the unimplicated side were so diseased as to need removal. The operation is therefore warranted, if for no other reason, simply for the diseased tubes and ovaries. I have practically been converted to the belief that electricity, and particularly electrolysis, should not be used in these cases. The electrolytic action is a most dangerous one. Although advocated by Apostoli, the results have been mostly disastrous in the cases in which it has been tried.

I have had four cases of early extra-uterine pregnancy within a few months, in all of which laparatomy was successful.

In regard to early diagnosis, I should say that the most common symptom is arrest of menstruation for one or two periods, followed by irregular uterine hemorrhages. It is true that pelvic colic is a common symptom, but not so common as the other. But I do not know that it is necessary to make an absolute diagnosis; given a woman with the existing symptoms of a suspected extra-uterine fetation, who has a displacing tumor on one side of the womb, are we warranted in operating merely to remove the tumor, whatever its nature? Do we not constantly, on less provocation, remove pelvic tumors whose character is determined only by the operation? Instead of an extra-uterine fetation, we may find pyo-salpinx or an ovarian abscess; but were we not in duty bound to perform the operation, even at the risk of an error in diagnosis?

Dr. Barton C. Hirst.—I was some time ago called to a case in consultation which presented a clear history of extra-uterine fetation: cessation of two periods, hemorrhage with the discharge of deciduous membrane, a distinct tumor to one side of the uterus, and the subjective signs of pregnancy, with swelling of the breasts and vomiting. Dr. Hamill and myself urged opera-
tion, but, the family being dissatisfied, we were discharged. Another physician was called, and Dr. Parish was consulted. He recommended the use of electricity, and a current was applied, with relief of the symptoms and, I believe, complete cure of the patient. There may be a varicose vein in the broad ligament, which having burst may present all the signs of extra-uterine fetation after rupture of the sac. I have had two such cases; in one case I opened the abdomen and found a blood tumor in the layers of the broad ligament and considerable blood in the peritoneal cavity. From the history and physical signs, I am quite sure that this was not an extra-uterine pregnancy.

I saw, in consultation, a fatal case of this kind after labor not long ago. The labor was a difficult one and ended by craniotomy. There was rupture of a vein in the broad ligament. The bleeding was first between the layers of the broad ligament. This then ruptured into the peritoneal cavity, and the woman died. There was no rent in the uterine wall. Such cases might be mistaken for extra-uterine fetation.

Dr. M. Price.—In most of these cases, all that we can make out is that there is something which should be removed; but as to a distinct diagnosis of extra-uterine pregnancy being made, I do not believe that it is done one time in ten. It does not interest us a particle whether the cases were diagnosed or not. There is trouble present of such a serious character that it does not become us to lose a single moment. Most of these cases come into the coroner's and not the surgeon's hands. Delay in operating is adding ten per cent to our mortality. It is our duty to operate on the first indication, and if we are mistaken, to thank God for the absence of so serious a condition.

Dr. Joseph Hoffman.—I have twice operated for extra-uterine pregnancy and did not find it. I operated once for something else and found extra-uterine pregnancy. The trouble is that these men who claim positive diagnosis do it from a single case, which, though by no means certain at the time of operation, resolves itself into an absolute diagnosis when they come to publish it. It is the dream and the nightmare of desire to publish something startling which make the diagnosis.

When we feel that rupture has occurred, electricity is a dangerous thing to tamper with. The principal danger is in delay. The longer the growth is allowed to continue, the greater the danger from adhesions, rupture, and complications which cannot be foreseen.

Dr. J. Price.—There are some interesting facts in connection with the history of this subject. It is curious that a few years ago a man with an experience of one doubtful case should discuss the subject before the American Gynecological Society. It is also curious that the same man, with a single experience with a woman sterile five years, having pelvic pain, irregular menstruation, a delayed period for six days, and recurring attacks of pain, should claim to have killed the fetus of an extra-uterine pregnancy by the use of electricity in ten séances, of half an hour's duration each, on consecutive days. Then follows another man with a history of one case, and another in consultation. The man with an experience of one case uses electricity, and the case passes into the hands of another, who writes to the first that he is going to operate. The first physician at once writes not to do it, as he has killed the fetus, while the operator already holds in his hands a large hydro-salpinx.
Dr. Noble.—Monday, a week ago, I removed an extra-uterine pregnancy which was rather unusual in the conditions present. The patient was seen by Dr. Kelly, and we agreed that it was almost certainly an extra-uterine pregnancy. At the operation I found the ovum was attached not far from the uterus. Hemorrhage had taken place in the tube, and the clots had been forced out through the fimbriated extremity. On the other side there was a hydro-salpinx. She has done well since the operation.

Dr. H. E. Baeer.—I wish to go on record as one who believes that it is as easy to diagnose extra-uterine pregnancy as to diagnose any other condition within the abdomen (as hydro-salpinx or pyo-salpinx) positively. But the man who says he can make such a diagnosis positively is an unsafe man.

Dr. J. M. Baldy.—It is noteworthy that the men who claim the most on this subject have had the least experience.

TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

Stated Meeting, May 3d, 1889.
Dr. W. W. Johnston, Vice-President, in the Chair.

Dr. George N. Acker read the paper of the evening.

A CASE OF PROLONGED GESTATION.¹

Dr. H. L. E. Johnson, in opening the discussion, said: The most important question is that of diagnosis. We should determine whether impregnation took place at the time given by the woman. This, of course, is not always possible, for there are so many conditions which would cause a cessation of the menses, and even sterility—as displacements of the uterus—that it is difficult to state with certainty when pregnancy began. In the case reported, however, there was a single cotus, so there can be no mistake. He, however, did not intend to cast any reflection in doubting such cases in general, although they do occur rarely. The principal symptoms of the beginning of pregnancy, morning sickness and nausea, may be feigned or mistakes. If the case progresses and everything appears normal, the question is, Has gestation lasted 305 or 280 days? It would seem as if the condition of the hair, nails, and cranial bones would show that the child had advanced beyond the development usually found at birth when gestation is not prolonged.

Duncan found that in 46 cases in which connection took place only once the average time of parturition was 275 days. Ahfeld, in 425 cases, obtained an average of 271 days; Hocker, in 108 cases, an average of 273.52 days; Veit, in 43 cases, an average of 276.42 days.

¹ See original article, page 1276.
In the individual cases, two are reported as following a single coitus 329 and 330 days, respectively.

In Ahlfeld's table there existed between the longest and shortest gestations a difference of 59 days; in Hecker's, 63; and in Veit's, 36.

Ahlfeld's tables show that the bulk of confinements vary within narrow limits. Of 633 women, in 15.93 per cent delivery occurred in the thirty-eighth week; in 27.56 per cent, in the thirty-ninth week; in 26.19 per cent, in the fortieth week; and in 10.01 per cent, in the forty-first week. More than half the cases occurred in the thirty-ninth and fortieth weeks, and 80 per cent between the thirty-eighth and forty-first weeks. Of the remainder, 14 per cent took place prior to the thirty-eighth week from accidental causes. Of the 6 per cent reported as occurring later than the forty-first week, a considerable number are of questionable authenticity. Lusk says that gestation protracted beyond the 285th day is certainly of very rare occurrence.

Dr. Busey would be sorry to think that all cases of protracted gestation were illegitimate. He had seen some cases in which he was sure the children were legitimate. He had attended the wife of a naval surgeon who had only been with her husband one day and then had not seen him for six months; her child was born 297 days afterwards, and he was sure it was legitimate. He had seen within a year a case where the husband was a remarkably intelligent man, whose wife was approaching the period when it would be impossible to hope for children; both were anxious to have a child, and posted themselves; they had fixed the date of labor for December 27th, 1888, but the child was born January 13th, 1889, 17 days over the calculated time.

Dr. Acker's statement that he had definitely fixed the date of impregnation was a mistake; he had only fixed the date of a single coitus. It may have been several, perhaps ten or more, days after this coitus before impregnation took place. It has been suggested also that we do not know whether the impregnated ovule is the one which escapes at the last menstruation, or the one which should escape at the succeeding period.¹

In so far as our data enable us to determine the date of impregnation, it may be stated that 35 per cent of pregnancies begin the day after the termination of the menstrual period, 85 per cent within the first ten days of the intermenstrual period, and 15 per cent at varying dates of the interval. My custom is to count 280 days from the date of cessation of the last menstruation. When the data are correct, the labor, with rare exceptions, takes place between 274 and 280 days; most frequently it has been nearest 274 days. In cases of prolonged gestation, there must be something peculiar to either the fetus or mother.

¹ At the next meeting of the Society, Dr. Busey, with permission of the Society, stated that the criticism of Dr. King had convinced him that he had either overstated or misstated this suggestion. He had succeeded during the interval in finding the following reference to the subject on page 291 of Parvin's "Science and Art of Obstetrics." "We do not know whether the ovule that is fecundated is the one liberated at the menstrual period immediately preceding the sexual intercourse, or the one corresponding to the succeeding menstrual suppression, or one escaping from its ovisac in the menstrual interval." After a more careful examination of this reference, he was unable to determine whether the author means to assert that the ovule is fecundated before or after its escape from the ovisac.
The conclusion is inevitable that there are certain unknown quantities which prevent the exact determination of the duration of gestation, but they do establish the fact of prolonged gestation, of which Dr. Acker's case is one of the most remarkable.

Dr. Fry.—Some obstetric authorities refuse to recognize the occurrence of prolonged gestation, while others accept the opinion that it occasionally happens. The chief interest attached to the question is its medicolegal aspect. Juries have repeatedly decided the legitimacy of children born more than three hundred days after intercourse of the parents.

In animals, as the cow and mare, for instance, where the date of coition is ascertained, it frequently happens that the calf or colt is born much later than the average period for the termination of utero-gestation in these animals. This being an accepted fact, why may not the same take place in the human species?

The case reported by Dr. Acker appears to be one of prolonged utero-gestation, although it may not be for so long a period as 305 days. Impregnation may be delayed for fifteen days after fruitful coition. Under such circumstances, it would reduce the period to 290 days.

It frequently occurs that women exceed the calculated time of their expected labor two or three weeks, and this is due either to an error of reckoning or to pregnancy having commenced just previous to the time of the first menstrual period missed.

In the cases reported of prolonged pregnancy, it is generally noted that the infants are usually well developed and above the average weight. Smellie, nearly one hundred and fifty years ago, reported, under his forceps cases, the fact that he had delivered a woman who went several weeks beyond her proper time, and said the infant was the largest he had ever delivered.

During the fall of 1888, Dr. Fry had delivered a woman who was three weeks later than her proper period. He used forceps, and after the birth of the head had great difficulty in extracting the body. This patient had had four or five children before, and all without assistance or delay.

The question under discussion was particularly interesting to Dr. Fry, as he has at present a case under observation which is one of well pronounced prolongation of utero-gestation. A brief report of the case is as follows:

Mrs. S., a young married lady, was delivered of her first child five years ago. Soon after this, her menses reappeared and recurred regularly every twenty-eight days until June, 1888. On the 19th of June her natural catamenial period appeared and lasted five days. On the 17th of July it failed to come, and she has not seen any flow except a very slight bloody discharge on the 27th and 28th of July. About the middle of August she commenced to suffer severely from nausea and vomiting.

September 14th she called at my office, and on examination I found the uterus enlarged, and judging from its size, etc., said she was pregnant about ten weeks.

November 1st she felt unmistakable motion, which has continued to date (over six calendar months). It is now the 3d of May, 1889, and this lady has not been confined. According to the usual method of calculation, counting back three months and adding seven days to date of last menstruation, her proper time for delivery was March 26th. Counting from the termination of menstruation, June 24th, her proper time
for labor would be, by calendar months, March 24th; by lunar months, March 31st. Quickening was felt November 1st, and, granting that she experienced it so soon as the end of the fourth month, her full time would arrive April 1st.

On the 14th of September, when I first saw her, I considered her about ten weeks pregnant. Calculating from this date to November 1st, when she first perceived motion, it would be the end of the seventeenth week; and the end of the fortieth week, the latest date to look for labor, would fall on April 10th.

Looking back over the history for any source of error, we can only find the slight discharge of blood on July 27th and 28th. This followed excessive fatigue from housework—most likely with an object in view—and was ten days later than the menstrual flow should have occurred. The objections against believing this a menstrual period are that she had already considered herself pregnant, and that it was only thirteen weeks from this date until decided fetal movements were felt. Inasmuch as this patient has always been regular in her flow every twenty eight days, impregnation must have occurred some time between June 24th, date when last menstruation ceased, and July 17th, date when the next period should have occurred.

Schmitt reckons from the middle of the interval between the last menstruation and the time when the menses should reappear, and adds 270 days. According to this method, the date would be March 29th. The latest possible period at which we can reasonably suppose conception took place is July 16th—the day immediately preceding the one on which the menses should have come. From this date, April 23d is the full period of gestation.

In this case, according to the different methods of reckoning, the earliest and latest dates to expect confinement are March 24th and April 23d, respectively.

This lady sent for me to-day to ask if I could give any encouragement to hope that gestation would ever terminate, as she is confident that she has been carrying a child ten months already.

I examined the patient and found the head and lower segment of uterus filling the pelvic cavity and resting upon the perineum; os dilated as big as a ten-cent piece. The fetal outline was very perceptible by abdominal palpation, and I think the large size of the lady is due to a large fetus, as there does not seem to be any great quantity of amniotic fluid present.

To take up for discussion the determining causes of labor would extend the debate unduly, but I do not think Dr. Acker should refer to the subject without mentioning two of the theories at least. They were: 1st. The fatty degeneration of the decidual membranes which isolated the fetal organism from the maternal; the former, acting as a foreign body, excited the uterus to contract. 2d. The relative rapidity of growth of fetus and uterus. During the earlier period of gestation, the muscular growth of the uterus was greater than the fetal development; later the proportional growth of the two was reversed. At first the fetus had plenty of room and floated in the amnion, but as it increased in size the accommodations diminished, and finally the uterus was excited to contraction by the distentions of the rapidly developing contents.

DR. H. L. E. JOHNSON.—Dr. Fry’s remarks were very ingenious: that he allowed the impregnated ovum to perambulate around fifteen days before it got into the uterus, and then had to allow the
woman ten days' longer time; and that this theory was incorrect, and not in keeping with the facts of the case, as the quickening was reported to be on time. The prolongation must, of course, be counted after the date of quickening. There was evidently deception on the part of the woman as to the time of quickening. He now had a case which at the longest calculation was due April 19th, and which had not yet come off. In this case, of course, coition was not interrupted.

Dr. Bromwell.—It is unfair to question the chastity in cases of prolonged gestation. We have no possible data from which to calculate the duration of gestation with certainty; nor can we determine the day or hour of impregnation. I think Dr. Acker's case was one of delayed conception and not prolonged gestation. Conception is the fastening of the fructified ovum upon the living tissues in the uterus. Fecundation is when the sperm cell enters the germ cell. I am satisfied that this case was either delayed fecundation or delayed impregnation.

Dr. Fry.—How long could the ovum remain without impregnation—fifteen days?

Dr. Bromwell.—It may remain for three or four weeks without fastening itself to the tissues of the woman.

Dr. W. W. Johnston.—One proof that the fecundated ovum could remain so long is that the spermatozoa may live fifteen days after being deposited in the uterus.

Dr. Bromwell.—The ovum may become fecundated during the intermenstrual period, and then be washed down by the flow at the next period.

Dr. A. F. A. King thought Dr. Busey was laboring under some misapprehension when he stated that the fructified—i.e., impregnated—ovule may remain so long as a month before getting into the uterus. After a month's evolution the fetus is a line or more in length, and the entire ovum much larger, while the small end of the Fallopian tube was no bigger than a bristle: the ovum of a month's growth could not, therefore, enter the uterus. That the ovum, after impregnation, began its development before entering the uterus, was evident in cases of extra-uterine pregnancy.

In dating the beginning of a pregnancy from a stated coitus, it should be remembered that the spermatozoïds may remain in the uterus and retain their impregnating power (at least their motile activity) for a number of days, even a week or more, after coition; so that the union of the sperm and germ cells may not have occurred until some time after coitus, and then only did the pregnancy begin. Spermatic fluid could be kept in a bottle, at the temperature of the body, for several days, and without the spermatozoïds losing their activity. The spermatozoïa of a frog could be repeatedly frozen without losing their power.

The ovule may remain subject to impregnation several days after menstruation, or after its discharge from the ovary, so that there were a number of circumstances which rendered the date of insemination uncertain.

There was one condition indicating prolonged pregnancy which he had observed, but which had not been mentioned in Dr. Acker's case, viz., an unusually large quantity of the vernix caseosa.

Since his recent study of the "posture" question during labor, he had become inclined to think that one of the factors in determining the beginning of labor was probably displacement of the
head from its place of rest on the iliac fossa into the pelvic brim and thus into the sphincter of the cervix uteri—this especially in multiparae, for in primiparae the head descends even before full term. In Dr. Fry’s case, however, we had the remarkable phenomenon of the child’s head pressing upon the perineum, with a partially dilated os uteri, and this for several days, without any symptom of labor. This case is extremely exceptional.

Dr. King related the case of a primipara in whom he had recognized a transverse position of the child during the last four or five months of pregnancy, by external examination. It was unmistakable even a few hours before any symptom of labor occurred. While the patient was sitting at table, labor pains began, and though it was only four hours since he had examined her before, and only less than one hour since pains occurred, the presentation was already spontaneously corrected and the head occupied the pelvic brim.

In this case it may well be asked whether the displacement of the head from the iliac fossa was the cause of labor pains, or whether pains preceded and caused the displacement. He thought the former supposition was quite as probable as the latter.

Even during labor, in uncorrected transverse presentations, we often find a sudden rupture of the waters to begin with, and then a cessation of pains for hours, and even days, as if Nature were waiting for the correction of the malposition before the womb could be allowed to go on with its contractions—a correction which, as he had elsewhere tried to show, would probably occur in primitive woman from the influence of a squatting posture.

Dr. King stated his decided belief in ovarian extra-uterine pregnancy, notwithstanding Tait’s observations. It was easily explained: the ovisac ruptures, but without discharging the ovule, and the spermatozoids enter at the site of rupture. One case had been recorded of hernia of the ovary, in which, for years, the organ became swollen and tender at the menstrual periods, and later it began to enlarge and continued to grow, containing an ovum, which thus developed outside the walls of the abdomen and under the skin. The organ was thus subject to palpation long before, as well as during the beginning and progress of, the pregnancy.

Dr. H. L. E. Johnson.—Did I understand Dr. Busey to say that the ovule became impregnated in the structure of the ovary? If there is anything settled, it is this question of ovarian gestation. Tait’s researches and investigations prove to my mind, without a doubt, that such a thing never occurs. In all cases investigated he has shown that they were extra-ovarian. Even in cases so reported, investigation proved them to be erroneous, no ovarian tissue being found as a wall structure.

Dr. Fry said he wished to contradict the statement of Dr. Johnson that Tait had conclusively demonstrated that ovarian pregnancy never occurs. Tait claims that impregnation always takes place in the tubes, and the ovum is arrested in its progress towards the uterine cavity; and denies that it ever happens upon the ovary or in the peritoneal cavity. This view is not accepted by the profession. All the American criticisms of Tait’s work that Dr. Fry had read opposed the acceptance of his opinion on this question. The case reported by Dr. Thomas—and there are other cases equally conclusive—refutes the theory. In this case the placenta was attached to the colon, consequently could not
have been a total pregnancy primarily and an abdominal after rupture.

Dr. H. L. E. Johnson. The ovum, escaping into the abdominal cavity, could attach itself to any structure and become abdominal gestation. It would attach and receive nourishment from surrounding structures, just as the adhesions of a fibroid tumor supply it with nourishment and life.

Dr. Fry said that Dr. Johnson, in his eagerness to defend the views of Tait, suggests explanations for the contradictory evidence that are directly opposed to the theories held by Tait himself. Dr. Johnson says we may account for the case mentioned by Thomas on the supposition that the ovum attached itself and grew to the colon after rupture of the tube. Tait claims that when the tube ruptures and the ovum escapes into the peritoneal cavity it invariably perishes. When the fetus continues to live after rupture of the tube, it escapes, not into the peritoneal cavity, but between the folds of the broad ligament. If it perishes in this case, it may suppurate, and the products be passed by rectum, vagina, bladder, etc.

Dr. S. S. Adams said that in his investigations upon hernia of the pregnant uterus he had found one case where a fetus was removed from a hernial sac. It occurred in a young lady about 20 years of age, and was supposed to be a bubonocele. Gouley, the reporter, in commenting upon this case, says he supposes the ovum after impregnation to have fallen into the abdomen upon one of the ligamenta teretia, which pass through the abdominal rings, where it found a dilatation of the peritoneum, and lodged in it by pressure of the bowels, and so formed a perfect hernia by itself, remaining in this part and growing to the size of a fetus three months old.

Dr. Fry.—The case referred to by Dr. Adams was evidently one of rupture between the folds of the broad ligament, and the ovum followed the course of the round ligament.

Dr. Ackcr.—I had no reason to suspect the virtue of the lady. I had attended her in two other confinements, and the time of the morning sickness, quickening, etc., all corresponded with previous pregnancies. Then, again, the labor pains came on at the time the accouchement was expected, and the neck of the uterus was soft and the os open. This continued until the night the child was born.

Stated Meeting, May 17th, 1889.

Dr. Joseph Taber Johnson, President, in the Chair.

Dr. D. W. Prentiss read the paper of the evening, entitled

CASES OF UTERINE FIBROID AND THEIR TREATMENT. 1

Dr. Smith mentioned a unique case. The patient is a lady 36 years of age, twice married, and now living with her second husband. She has never been pregnant; menses have always been scant, and during the past ten years have scarcely showed at all. During the last six or eight months there had been no discharge whatever until last week, when a single drop, as she says, appeared. She called at my office, and on examination I found a

1 See original article, page 1263.
fibroid as large as the fist. The tumor has now increased in size one-third. The case is unusual in that it shows the development and growth of a uterine fibroid in a patient in whom menstruation and ovarian activity are apparently in abeyance.

Dr. Fry asked Dr. Smith how he knew there was no ovarian activity.

Dr. Smith.—There were no apparent symptoms, only some vague sensations.

Dr. Fry.—Was there anything periodical about the sensations?

Dr. Smith.—No.

Dr. Busey.—What is the condition of her health?

Dr. Smith.—Excellent. She is well developed and robust.

Dr. Prentiss also presented one of his cases for examination.

The President, having examined the patient, said: The conditions were the same as those of the second case in Dr. Prentiss' paper. She had two tumors on one side, two behind, and two on the other side. Her condition is an unhappy one, and she has a hard life to live. Her pelvis is full, the fibroids, extending to the umbilicus, have long pedicles, and there is constant danger of intestinal constriction. She has frequent attacks of pain; painful defecation with hemorrhage, and has to be accompanied by some one at these times. She is now prosperous, but would end her life if poverty should overtake her. When not in pain she is comfortable. He thought she should be operated upon. It was a case of rapidly growing fibroids with concomitant dangers. Death might result from hemorrhage, from kidney disease from pressure on ureters, or from pressure on other abdominal viscera. Her mother menstruated until she was 54; her sister, who is now 54, is still menstruating. He thought in her case it would be dangerous to wait for the menopause. The ovaries are probably so situated that they may not be reached without dangerously tearing surrounding tissues. He thought the operator should be prepared to perform hysterectomy; she might get on without operation, but he thought it doubtful. Hypodermics often produced nausea and wakefulness instead of quieting her. After considering all the dangers, he would take the responsibility of performing the operation.

Dr. Prentiss.—What is the mortality?

The President.—Great, but her danger is also great.

Dr. Prentiss.—What per cent?

The President.—Removing ovaries for the cure of fibroids, 95 to 97 per cent get well. In hysterectomy, death rates of all operators about 40 per cent.

Dr. Smith.—Greeg Smith says it should not be more than 15 per cent in the hands of skilled operators.

The President desired to set Dr. Smith aright as to specialists. There might be no mortality. Keith had 33 cases with 2 deaths; Bantock, 12 cases, no mortality. In his own cases, 5 in all, 3 died, but he meant to do better.

Dr. Smith agreed with the President that the mortality should not be over 40 per cent.

Dr. Fry thought that in deciding upon operations the natural history of the disease should be considered. We know death is almost never caused by an excessive hemorrhage or takes place suddenly except in the worst cases. In the treatment of Dr. Prentiss' cases, he thought that two currents should not be used at one time, as they differ in their effect. One counteracts the effect
of the other. Anodes check hemorrhage, cathodes neutralize. We should always use the positive pole to check hemorrhage. When pain is produced, it is owing to the pole coming in contact with the cervix. He uses an electrode that is insulated, except at the point, which is made of platinum. Hemorrhage is often produced in fibroids by the presence of fungous endometritis, which may be cured by the use of the curette. He would like to correct a wrong impression made by Dr. Prentiss. Apostoli does not pass needles through the abdominal walls into tumors, as they may produce sloughing, septicemia, and death. He passes one pole into the uterus and places the other over the abdomen. In cases where the tumor is low down and at the side, he punctures through the vaginal wall. This woman is too old for operation, and we should wait for the menopause, which may cure her. This may be apparently delayed by fungous endometritis. Curette the uterine canal and you can check the hemorrhages. Aside from cases of strangulation of intestines from long pedicle of fibroid, and sudden death, there are two factors which produce trouble: first, hemorrhage; and second, pressure. Death is very seldom caused directly by either. The worst cases let alone do not cause eight per cent of deaths, or Keith's mortality.

The President thought the argument of Dr. Fry against the operation, because of the near approach of the menopause, faulty; the patient might menstruate for nine or twenty years longer. He does not recommend hysterectomy for all cases of fibroids, but for such as cannot be cured otherwise. Oophorectomy is a great boon in these other cases. He has performed six oophorectomies in cases of fibroids, with success in all. Hysterectomy is suitable in cases where the woman's sufferings make her rather wish to die than live. Has performed five hysterectomies, with three deaths. Bantock's operation is very successful, but he has not succeeded in having no mortality. The operation requires time, patience, skill, and great resources.

Dr. W. W. Johnston.—The question to decide is, whether mortality is greater in those cases let alone or in those subjected to operation. What is our experience? Of a large number of fibroids we know of only one death; all have seen deaths from hysterectomy. Dr. Fry's argument is a good one. The mental attitude of a patient should be considered in deciding about operation. He cited the case of a lady with tubal disease who went to New York and consulted a prominent physician, who advised salpingectomy; a second, equally prominent physician, advised against operation; while a third agreed with the first. She declined operation, though she had at first decided to have it performed.

Dr. Prentiss, in closing, said he was glad of the extended discussion his paper had produced, but was disappointed with the opinions about operating. He thought the question not entirely decided. He thought oophorectomy but not hysterectomy should be performed in this case, in face of the great mortality attending the latter. He could not agree with Dr. Fry as to the opinions he had advanced about electricity. The positive pole checks hemorrhage and relieves pain; the negative causes pain. The positive produces contractions and adhesions of the electrode to the endometrium, requiring the reversal of the current to release it.
ABSTRACTS.

1. Deipser: Hot Irrigations after Delivery (Centrallbl. f. Gyn., 22).—Some believe that, in labor requiring neither repeated examinations nor operative interference, nothing should be done in the way of cleansing the parturient canal, and that only when there is a suspicion that infection has taken place should irrigation be employed. Immediately after delivery there are no objective signs that infection has occurred. The attending physician will anticipate any adverse criticism by acting on the assumption that in a given case there is likely to be trouble during the puerperium, and take such measures, as disinfection of the genital tract, as would seem likely to avert it; if he delays until the third or fourth day, and unfavorable symptoms occur, he will be likely to be censured for having neglected his patient. The question is, is the remedy harmless? Corrosive sublimate appears to be a dangerous remedy in some hands, while with others it is perfectly harmless; carbolic acid, for some reason or other, is not popular with either physicians or midwives; creolin seems to possess a future. D. recommends that after delivery, shortly after the birth of the placenta, and then for six days successively, irrigation with a quart of water of the temperature of 40° R. be practised. The temperature of the water does not allow of the multiplication of germs; the stream of water also clears the mucous membrane of blood clots and other foreign substances in the simplest manner possible. In using the ordinary disinfectants, the fluid is generally of the temperature of the blood. This may prove dangerous by relaxing the uterus. When the water is of the temperature of 40° R., it acts as an irritant and causes the uterus to contract, and may also be used in post-partum hemorrhage or to increase the pains. The method is harmless and always applicable. A portion of the hot water enters the uterus; this does no harm—on the contrary, it is capable of closing patulous blood vessels by direct irritation and through contractions of the uterus, at the same time removing any shreds of placental tissue that may remain behind.

D. has frequently employed this method, and has the best results to report. Water of the temperature of 40° R. is well tolerated by the vagina, but the external genitals should be protected against the stream.

2. Freund, H. W.: On the Treatment of Malignant Growthsof the Ovary (Zeit. f. Geburts. u. Gyn., XVII., 1).—Among the many contra-indications to ovariotomy which have been brought forward in recent years, very few have survived; but one of them, which has its seat in the growth itself, has maintained its hold upon the profession, and that is the proven malignancy of the new formation. The time is past when it was thought improper to operate in cases where the malady was limited to the ovary. When the disease is generalized and attacks other organs, the boldest and most successful utterly condemn operative measures for relief. Only exceptionally, when insupportable suffering is to be relieved thereby, is the operation under these circumstances held to be justifiable. These are the prevailing views on the subject. The experience of F. at the Strassburg 83
Abstracts.

Clinic led to conclusions of an altogether different nature, and are so significant that he narrates in detail what has caused his change of opinion. F. accepts the classification of papillomata with malignant growths, at least on a clinical basis, for a papilloma when it ruptures pursues a similar course and has an equally baneful effect upon the system as if it were cancerous; this will, of course, increase the proportion of malignant growths which have their seat in the ovary. The author gives the history of a number of cases. A useful diagnostic factor is to be obtained from their study: In ten out of twelve cases there was a greater or lesser effusion of fluid into the pleura; this is not to be considered as due to pleuritis, but is a simple hydrothorax produced by the dissemination of the abdominal transudate through the lymphatics of the diaphragm into the pleural cavity. In most of the cases, however, malignant disease of the pleura through metastasis could be excluded. The symptom does not occur early in the course of the disease. Hydrothorax never affords a contra-indication to ovariotomy; it generally disappears very rapidly after operating. Papilloma is as often accompanied by hydrothorax as carcinoma or sarcoma.

In three cases of carcinoma the umbilicus was the site of predilection for metastasis to appear. In most of the cases (nine) the menses were uninfluenced by the development of the disease.

As regards the occurrence of secondary growths, as yet the most important contra-indication to extirpation, the cases detailed present entirely new phases. Two varieties of secondary tumors are to be differentiated. The ordinary metastasis, into the organs and tissues of the abdomen, especially the intestines, liver, parietal peritoneum, mesentery, etc., consists either of regional transportation of the primary growth to surrounding tissues or by extension through the blood and lymph; such tumors are generally marked with a capillary plexus, which insures their continued growth; the surroundings become infiltrated and succulent, and by their rapid growth and decomposition these tumors greatly menace life. Entirely different are the isolated or multiple secondary tumors found in the deepest portions of the peritoneal cavity. F. does not include them in the ordinary conception of metastasis; he believes that they are neither disseminated nor transported there by the blood or lymph, but that they fall into these situations as detached portions of the primary growth; these tumors differentiate themselves also anatomically from ordinary metastatic growths by the fact that they are so firmly bound to the peritoneum by strong connective tissue that only their upper brittle portions can be removed, and that in no case of the author's did a particle of blood make its appearance. These tumors also remain stationary in growth; they are simply foreign bodies which produce reactive inflammation when in the cul-de-sac of Douglas. F. would therefore not call this process metastasis, but implantation; their pathological significance, therefore, sinks out of sight; they may be never so numerous, yet do not contra-indicate a radical operation.

The unusually successful outcome of F.'s cases leads him to include even disseminated growths as coming properly under the class to be operated on, and proves to him that individuals suffering from diffused malignant growths may continue to live and thrive after complete removal of the same. F. thinks the key to success consists in the absolute removal, so far as possible, from the abdomen of fluids, a result not to be obtained by puncture but by laparotomy; as soon as this is accomplished, the diaphragm again sinks to
Items.

1315

its normal plane, the lungs expand, pressure diminishes in the alimentary canal, in the ureters, and in the large abdominal vessels. The organism becomes rejuvenated by larger supplies of oxygen and by undisturbed processes of nutrition beginning in the alimentary canal, and by free elimination of waste matters.

Any one taking the position taught by the foregoing—i.e., to operate in cases of malignant tumors of the ovary, no matter how far advanced—should be a master of the technique of modern laparatomy, should be well posted in the details of resection of intestines, etc., and must not expect to operate in a rapid manner, and must assure himself of the personnel in charge of the after-treatment.

L. R.

ITEMS.

Professor P. Ménière has been obliged by ill-health to give up the practice of medicine, and has transferred the management of the Gazette de Gynécologie to Dr. Philippean, who will continue the Gazette on the plan pursued by its founder. Prof. Ménière has the sympathy of this Journal in his enforced retirement, and his successor our best wishes.

At a meeting of the New York Obstetrical Society, held November 5th, the following resolution was unanimously adopted:

Resolved, That the members of this Society have learned with deep regret of the death of Dr. Isaac E. Taylor, one of its most distinguished Fellows. It is their wish to express here their high appreciation of his purity of character, his enthusiasm in promoting obstetric science, his lofty ideals, the kindness of his nature, his self-sacrificing disposition, and his warm-hearted benevolence.

In recalling his life and character, it is pleasant to remember that the deeds of good men live after them.

Fordyce Barker, M.D.,
William T. Lusk, M.D.,
William M. Polk, M.D.,
Committee.

The Board of Obstetric Surgeons of the New York Maternity Hospital have offered the following resolutions:

Resolved, That in the death of their late president, Dr. Isaac E. Taylor, the members of this Board have met with an ir-
reparable loss—the loss not only of a faithful and efficient colleague, but of a warm personal friend.

Resolved, That in his beautiful and serene old age they recognized the noblest type of the good physician, who retired from the active practice of his profession in the fulness of his fame and with the universal love and respect of his associates.

Resolved, That they extend to the family of the deceased their heartfelt sympathy, and that they will unite with them in cherishing his memory.

Fordyce Barker, M.D., Henry J. Garrigues, M.D.,
Walter R. Gillette, M.D., Robert A. Murray, M.D.,
William T. Lusk, M.D., Egbert H. Grandin, M.D.,
Montrose A. Pallen, M.D., Henry C. Coe, M.D.,
Consulting Surgeons. Attending Surgeons.

To the Editor of the American Journal of Obstetrics.

SIR,—Dr. Joseph Mies, of Cologne, Germany, a craniologist of considerable reputation, who has recently turned his attention to statistics of the newly-born, has written me, requesting my aid in obtaining statistics from maternity institutions in this country. He wishes to make as exhaustive a study of the subject as practicable, and will publish his results. He wishes more particularly length and weight of different portions of the body, in English or metric terms, with description in Volapük, German, or English.

I will, with pleasure, undertake the transmission to Dr. Mies of such matters as may be sent me, or they may be sent direct to "Herr Dr. Joseph Mies, Schildergasse, Köln (Rhein), Germany."

M. W. Wood,
Capt. and Asst. Surgeon U. S. Army,
Fort Randall, Dakota.
INDEX TO VOLUME XXII.

A.
Abbott. Imitation wire gauze for binders.......................................................... 79
Abdominal circulation, see Magnesium sulphate
muscies, spasmodic contracture of the, simulating internal
tumor. Boldt................................................................. 279
operations, the accidents and complications incident and sub-
sequent to. Hoffman......................................................... 1099
section, a year’s record of seventy-five successful cases of.
Miller................................................................. 680
surgery, how the refinements of, have influenced general
surgery. Barrow......................................................... 1097
tumor, a large, attached to the inner surfaces of the sixth and
seventh ribs. Frank......................................................... 645
Abdomino-intestinal fistula after laparotomy. Chambers.................. 298
Abel. On the behavior of the mucous membrane of the corpus uteri
in carcinoma of the cervix............................................. 111
Abortive ovum, an early. Jaggard.............................................. 1212
Abscess, pelvic, in the female. Parish........................................ 753
perityphlitic; laparatomy; recovery. Wylie.................................. 405
Accidents, the, and complications incident and subsequent to abdominal
operations. Hoffman......................................................... 1099
Acid, boric, note on some gynecic uses of. Potter.................................. 719
Acker. A case of prolonged gestation........................................ 1276, 1304
Adams. Hernia of the pregnant uterus......................................... 225, 300
Address, annual, American Gynecological Society. Wilson........ 1058
President’s, American Association Obstetricians and Gynecolo-
gists. Montgomery......................................................... 1114
President’s, Obstetrical Society of London. Galabin................... 875
Adeno-myo-sarcoma of the cervix uteri, a rare case of. Mundé........................................ 126, 282
Ahlfeld. Report of the Marburg Obstetrical Clinic and Polyclinic for
the year ending March 31st, 1888...................................... 448
Alcoholic treatment of puerperal fever, on the. Martin.................. 1230
Alexander’s operation, modification of. Dolérès.................................. 1227
operation, with a new method for securing the round liga-
ments. Carpenter........................................................ 748
Allen. A case of Cesarean section............................................. 492
Allen’s surgical pump. Tuttle.............................................. 831
American laparatomies, an analysis of................................ 1322
laparatomies, recent, unselected........................................ 1237
Amputations of the fetal extremities, intra-uterine cord. Price........... 1090
Anasarca of fetus and hydramnion, case of diseased placenta. Long-
aker................................................................. 639
Anatomy of the pelvic floor, a contribution to the. Herman.................. 1223
Anemia, profound, on the value of subcutaneous injections of chloride
of sodium in the treatment of. Menchmeyer................................. 1119
Antiseptic injections in obstetric practice, the use and abuse of. Gar-
rigues................................................................. 1048
Aphasia, hysterical. Jacobus................................................ 837
Aplasia, fetal, a case of. Jaggard........................................ 1209
Apoplexy, fatal, before puberty. Harrison.................................. 275, 302
Apostoli. Electrical treatment of salpingo-ovaritis ........................................ 791
Apostoli’s clinic, report from. Hall......................................................... 1254
method, a year’s experience with, with reports of cases: Smith,.......................... 794
place in gynecology. Bigelow.............................................................. 639
Appendages, disease of the, laparotomy for. Tuttle........................................ 831
removal of the, the indications for, and limitations of, the operation for. Montgomery 756
uterine, the treatment of suppurative disease of the. Boldt ............................ 262
Ascites, laparatomy for. Ashby........................................................... 44
Ashby. Laparatomy for ascites ......................................................... 44

The value of laparotomy in the diagnosis and treatment of minor forms of intra-abdominal and intra-pelvic diseases. 1075

B.

Bacteria, cultures of, from the urine of a case of nephritis after scarlet fever. Holmes 200
on the relation of, to puerperal eclampsia. Holmes........................................ 847
Baeker and Temesváry. Studies in the lying-in state ..................................... 896
Bacter. Cyst removed by enucleation................................................... 171
Baldy. A case of tubal pregnancy, with specimen ........................................ 1301
• Malignant papilloma ................................................................. 1206
Banta. The rectification of face presentations ........................................... 1091
Barrow. How the refinements of abdominal surgery have influenced general surgery .......................... 1097
Basedow’s disease, what is the condition of the genital tract in. Kleinwaechter 672
Bayard. Secondary mixed infection in some of the acute infectious diseases of children. 652
Beaugamst. Inversion of the stump after Porro’s operation ....................... 326
Berlin. A case of ante-uterine hematocele; laparotomy; recovery ..................... 495
Bernardy. Suppurating post-uterine hematocele ........................................ 1207
Bigelow. Apostoli’s place in gynecology ................................................. 639
Billington. The differential diagnosis of diphtheria ....................................... 885
Binders, imitation wire gauze for. Abbott .............................................. 79
Birth at the twenty-eighth or twenty-ninth week of gestation, with survival and satisfactory development of the child. Gilbert 1118
Bizzell. Certain forms of menorrhagia and treatment of the same .................... 634
Bladder, absence of the, a case of. Winter .............................................. 374
dilator, Küster’s. Boldt ............................................................... 1171
injuries of the, during laparotomy. Jackson ................................................ 735
Boldt. Fetal monstrosity without a trace of body ....................................... 403
Fixation of the uterus by adhesions; Brandt’s method of treatment ............ 280
Intermediate trachelorrhaphy .................................................................... 1073
Küster’s bladder dilator ................................................................. 1171
Laparotomy for probable tubal pregnancy subsequent to rupture ......... 949
Multilocular cyst of the ovary with great variety of contents ....................... 950
Spasmodic contracture of the abdominal muscles simulating internal tumor .................................................. 270
Boldt. The manual treatment in gynecology ............................................... 579
The treatment of suppurative disease of the uterine appendages.............. 262
Vesico-vaginal fistula from unusual cause, with some remarks on vaginal hysterectomy for cancer ................................................. 633
Boric acid, note on some gynecic uses of. Potter ....................................... 719
Boroglyceride, see Glycaboron
Boyd. Multilocular ovarian cyst .................................................................. 169
Bradford. Notes of gynecological cases treated by electricity ....................... 523
Breisky, August. In memoriam ................................................................. 717
<table>
<thead>
<tr>
<th>INDEX TO VOLUME XXII.</th>
<th>1319</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bright's disease during pregnancy, sequel to a case of. Herman</td>
<td>333</td>
</tr>
<tr>
<td>Broad ligament, cyst of the; laparotomy; anomalous course of the</td>
<td>407</td>
</tr>
<tr>
<td>ureter. Wylie</td>
<td></td>
</tr>
<tr>
<td>Brothers. Report of one thousand cases of diseases of children, with</td>
<td>386</td>
</tr>
<tr>
<td>special reference to treatment.</td>
<td></td>
</tr>
<tr>
<td>Buckmaster. Improved cell for electrolysis</td>
<td>409</td>
</tr>
<tr>
<td>Buist. A review of the treatment of uterine diseases by electricity</td>
<td>247</td>
</tr>
<tr>
<td>Bumm. On the problem of further investigations in the field of pu-</td>
<td>1007</td>
</tr>
<tr>
<td>peral infection</td>
<td></td>
</tr>
<tr>
<td>Busey. The wrong of craniotomy upon the living fetus</td>
<td>51, 99</td>
</tr>
<tr>
<td>Byford. Calculus from the right ureter</td>
<td>963</td>
</tr>
<tr>
<td>Cysto-fibroma of the ovary</td>
<td>314</td>
</tr>
<tr>
<td>Cysto-fibro-myoma of the uterus</td>
<td>316</td>
</tr>
<tr>
<td>Fatty tumor of the suprarenal capsule</td>
<td>315</td>
</tr>
<tr>
<td>Fibro-cystic tumor of the uterus successfully removed by</td>
<td>965</td>
</tr>
<tr>
<td>laparotomy</td>
<td></td>
</tr>
<tr>
<td>Forceps for the broad ligament in vaginal hysterectomy</td>
<td>962</td>
</tr>
<tr>
<td>Ovarian pregnancy</td>
<td>315</td>
</tr>
<tr>
<td>Urteral calculi</td>
<td>314</td>
</tr>
<tr>
<td>Vaginal ovariotomy trocar</td>
<td>314</td>
</tr>
<tr>
<td>Byrne. A digest of twenty years' experience in the treatment of can-</td>
<td>1052</td>
</tr>
<tr>
<td>cer of the uterus by galvano-cautery</td>
<td></td>
</tr>
</tbody>
</table>

**C.**

| Calculated ovary associated with uterine fibroid. Sims | 77 |
| Calculus from the right ureter. Byford | 963 |
| of kidney, nephrotomy for removal of. Chadwick | 1079 |
| ureteral. Byford. | 314 |
| vesical, containing a hairpin. Dudley | 757 |
| Cancer of the cervix, vaginal extirpation of the uterus for. Reed | 442 |
| of the uterus, a digest of twenty years' experience in the treat- | |
| ment of, by galvano-cautery. Byrne | 1052 |
| Carcinoma, early hysterectomy in Tuttle | 623 |
| of the cervix, on the behavior of the mucous membrane of | |
| the corpus uteri in. Abel | 111 |
| of the ovary, contribution to the diagnosis and treatment of. | |
| Leriche | 1005 |
| of the uterus in an eight-year-old girl. Ganghofer | 445 |
| Carpenter. Alexander's operation, with a new method for securing the | 743 |
| round ligaments. | |
| Hygiene versus surgery in gynecology | 486 |
| Casuistry in Obstetrics. Parvin | 730 |
| Catgut, dangerous juniper. Nilsen | 158 |
| suture, a reliable, adapted to Emmet's operation for cervical | |
| lacerations. Meinert | 102 |
| Catheter, a new two-way, for uterine injection. Cordes | 749 |
| Catheters, glass. Kelly | 184 |
| Cavernous metamorphosis of the ovaries, a case of. Gottschalk | 233 |
| Cell for electrolysis, improved cheap. Buckmaster | 409 |
| Cellulitis, chronic pelvic, and the conditions which simulate it. Hardon | 218 |
| Cervix, carcinoma of the, on the behavior of the mucous membrane of | |
| the corpus uteri in. Abel | 111 |
| hypertrophy and laceration of the—amputation and trachelo- | |
| rhaphy. Wenning | 311 |
| laceration of the, the treatment of, by the obstetrician. Coe | 749 |
| uteri, adeno-myxo-sarcoma of the, a rare case of. Mundé | 232 |
| uteri, epithelioma of, the vaginal hysterectomy for. Janvrin | 1280 |
| Cesarean section, a case of. Allen | 492 |
| section for contracted pelvis, a case of. Champneys | 880 |
| section, further contribution to the subject of conservative. | |
| Skutsch | 666 |
Cesarean section, the simplification of. Fritsch.................................................. 1229
sections performed at the St. Petersburg Maternity from
October 16th, 1885, to January 1st, 1888, a short report of.
Kraowski.................................................. 334
Chadwick. Nephrotyon for removal of calculus of kidney........................................... 1079
Chambers. Abdomino-intestinal fistula after laparotomy........................................... 298
Chambrelent. Acute meningitis an indication for premature delivery.............................. 1118
Champneys. A case of Cesarean section for contracted pelvis..................................... 880
Chenoweth. A successful case of laparotomy for extra-uterine feta tion........................ 147
Chlorosis and menstruation, on the relation between: an analysis of 232
cases. Stephenson................................. 876
Cholecystorrhaphy, a case of, followed by cholecystotomy and evacuation
of 188 gall stones, and recovery. Kelly.................................................. 1191
Cholmogoroff. The micro-organisms of the umbilical stump........................................ 1093
Chorion in pregnancy. Handfield-Jones.............. 1090
Champ, a new, for vaginal extirpation of the uterus. Hall ............................... 660
Montgomery.................................................. 184
Chloroform, with needle attached. Hanks.................................................. 506
Clarke. Bleeding in puerperal celanopia.................................................. 855
Chronic cystitis in the female.................................................. 745
The management of the perineum during labor.................................................. 1093
Clay, white, the treatment of parenchymatous mastitis and inflammation
of the mammary gland by. Maisel.................................................. 445
Cleveland. Glass stem for trachlorhaphy operations.................................................. 78
Case of gynecoma zia.................................................. 783
Death from visceral affections after ovariotomy.................................................. 1069
Heart failure after operations.................................................. 296
So-called '' varicocele in the female.................................................. 504
Sponges should be in the charge of a special nurse during laparotomy.................................................. 166
The treatment of laceration of the cervix by the obstetrician.............................. 749
Coleman. A combined rectal and intra-uterine irrigator........................................... 1021
Collyer. Fibroma diffusum of the labia minora.................................................. 1251
Complications, the, and accidents incident and subsequent to abdominal
operations. Hoffman.................................................. 1099
Concealed pregnancy: its relations to abdominal surgery. Vander
Veer.................................................. 731, 1121
Confinements in a maternity, a series of five hundred. Price........................................... 721
Congestion, pelvic, versus pelvic inflammation. Gordon.................................................. 1065
Contracted pelvis, Cesarean section for, a case of. Championys..................................... 880
pelvis, version in. Nagel.................................................. 667
Contracture, spasmodic, of the abdominal muscles simulating internal
tumor. Boldt.................................................. 279
Convulsions, puerperal. Wenning.................................................. 304
Cook. Do maternal mental impressions affect the fetus in utero?..331, 969
Cord amputations, intra-uterine, of the fetal extremities. Price........................................... 1090
Cordes. A new two-way catheter for uterine injection.................................................. 749
Correcton.................................................. 1047
Correction. Cordes.................................................. 1047
Cranial fissures in early childhood. Henoch.................................................. 446
Cranioclast, a modified Braun's. Hirst.................................................. 95
Cranietomy and its indications. Hoffman.................................................. 746
methods of. Donald.................................................. 544
upon the living child. Montgomery.................................................. 1103
upon the living child, is it justifiable? Wathen.................................................. 1233
upon the living fetus, the wrong of. Busey.................................................. 51, 99
CrofJord. A new method of performing hysterectomy.................................................. 500
Crying in utero, a child. McLean.................................................. 166
Cullingworth. Extra-uterine feta tion; abdominal section eight months
INDEX TO VOLUME XXII.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>after death of fetus; sac formed by left Fallopian tube and left</td>
<td>324</td>
</tr>
<tr>
<td>broad ligament; recovery</td>
<td></td>
</tr>
<tr>
<td>Cushing. Ligatures and sutures—what material shall we use?</td>
<td>1107</td>
</tr>
<tr>
<td>Cuthbert. Three cases of diphtheria in which papoid was used.</td>
<td>818, 870</td>
</tr>
<tr>
<td>Cyst, extra-peritoneal. Tuttle</td>
<td>953</td>
</tr>
<tr>
<td>intraligamentous. Hirst</td>
<td>174</td>
</tr>
<tr>
<td>multilocular, of the ovary, with great variety of contents. Boldt.</td>
<td>950</td>
</tr>
<tr>
<td>of the broad ligament; laparatomy; anomalous course of the</td>
<td></td>
</tr>
<tr>
<td>ureter. Wylie</td>
<td>407</td>
</tr>
<tr>
<td>ovarian. Goodell</td>
<td>423</td>
</tr>
<tr>
<td>ovarian, multilocular. Boyd</td>
<td>169</td>
</tr>
<tr>
<td>ovarian, multilocular. Perry</td>
<td>829</td>
</tr>
<tr>
<td>ovarian. Mundé</td>
<td>959</td>
</tr>
<tr>
<td>ovarian. Tuttle</td>
<td>831</td>
</tr>
<tr>
<td>ovarian, see also Ovarian</td>
<td></td>
</tr>
<tr>
<td>recurrent intraligamentary. Goodell</td>
<td>422</td>
</tr>
<tr>
<td>removed by enucleation. Baer</td>
<td>171</td>
</tr>
<tr>
<td>Cystitis, chronic, in the female. Clarke</td>
<td>745</td>
</tr>
<tr>
<td>Cystocele, vaginal prolapse, and rectocele, remarks on. Hadra</td>
<td>457</td>
</tr>
<tr>
<td>Cysto-fibroma of the ovary. Byford</td>
<td>314</td>
</tr>
<tr>
<td>Cysto-fibro-myoma of the uterus. Byford</td>
<td>316</td>
</tr>
<tr>
<td>Cysts, intraligamentary, double. Goodell</td>
<td>170</td>
</tr>
<tr>
<td>vaginal, a contribution to. Kleinwaechter</td>
<td>668</td>
</tr>
</tbody>
</table>

D.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis. Electricity in gynecology</td>
<td>890</td>
</tr>
<tr>
<td>Deaver. Large multilocular ovarian cyst</td>
<td>1297</td>
</tr>
<tr>
<td>Deipser. Hot irrigations after delivery</td>
<td>1313</td>
</tr>
<tr>
<td>Development, error of, a unique case of, with some light upon the</td>
<td></td>
</tr>
<tr>
<td>pathology of ovarian diseases. Nilsen</td>
<td>284</td>
</tr>
<tr>
<td>Dickinson. Studies of the levator ani muscle</td>
<td>897</td>
</tr>
<tr>
<td>The vagina as a hernial canal</td>
<td>692</td>
</tr>
<tr>
<td>Dilatation, rapid, of the uterine canal for the cure of dysmenorrhea</td>
<td>1271</td>
</tr>
<tr>
<td>and sterility, a report of eighty cases of. Townsend</td>
<td></td>
</tr>
<tr>
<td>Dilator, Küstner's bladder. Boldt</td>
<td>1171</td>
</tr>
<tr>
<td>uterine, modified Wathen's. Hanks</td>
<td></td>
</tr>
<tr>
<td>Diphtheria in which papoid was used, three cases of. Cuthbert</td>
<td>818, 870</td>
</tr>
<tr>
<td>the differential diagnosis of. Billington</td>
<td>885</td>
</tr>
<tr>
<td>Diseases of children, report of one thousand cases of, with special</td>
<td></td>
</tr>
<tr>
<td>reference to treatment. Brothers</td>
<td>386</td>
</tr>
<tr>
<td>Disinfection, the, of the parturient canal. Doederlein and Gunther</td>
<td>669</td>
</tr>
<tr>
<td>Displacements of the uterus, posterior, the surgical treatment of.</td>
<td>1066</td>
</tr>
<tr>
<td>Dixon. A case of tubal pregnancy</td>
<td>772</td>
</tr>
<tr>
<td>Doederlein and Gunther. The disinfection of the parturient canal</td>
<td>669</td>
</tr>
<tr>
<td>Ducring. Prophylaxis of puerperal eclampsia</td>
<td>850</td>
</tr>
<tr>
<td>Doléris. Modification of Alexander's operation</td>
<td>1227</td>
</tr>
<tr>
<td>Donald. Methods of craniotomy</td>
<td>544</td>
</tr>
<tr>
<td>Doran. Anterior serous perimetritis simulating ovarian sarcoma, when</td>
<td></td>
</tr>
<tr>
<td>explored by abdominal section; recovery, with disappearance of the</td>
<td>997</td>
</tr>
<tr>
<td>cyst</td>
<td></td>
</tr>
<tr>
<td>Doran. Large ovarian tumors in a seven-months child</td>
<td>669</td>
</tr>
<tr>
<td>On myoma and fibro-myoma of the uterus and allied tumors of the</td>
<td></td>
</tr>
<tr>
<td>ovary</td>
<td>201</td>
</tr>
<tr>
<td>Douglas. Clinical and post-mortem report of an enlarged spleen, diag-</td>
<td></td>
</tr>
<tr>
<td>nosed as a uterine myoma</td>
<td>357</td>
</tr>
<tr>
<td>Dudley. A uterine myoma removed by a combined vaginal and abdomi-</td>
<td></td>
</tr>
<tr>
<td>nal operation; capsule stitched into the abdominal wound.</td>
<td>966</td>
</tr>
<tr>
<td>Double pyo-salpinx, with fistulous opening into the rectum</td>
<td>1380</td>
</tr>
<tr>
<td>Oophorectomy for menorrhagia</td>
<td>297</td>
</tr>
<tr>
<td>Pressure forceps versus the suture in vaginal hysterectomy.</td>
<td>826</td>
</tr>
<tr>
<td>Retroversion with adhesions; laparotomy</td>
<td>758</td>
</tr>
</tbody>
</table>
INDEX TO VOLUME XXII.

Extra-uterine fertilation. Goodell .......................... 424
fertilation, laparotomy for, a successful case of. Chenoweth, 147
pregnancy, a case of. Evans .......................... 772
pregnancy, a case of; operation; recovery. McMurtry, 1042, 1083
pregnancy; death of fetus at three months, peritonitis follow-
ing; tedious convalescence; operation six months after; complete recovery. Gordon .......................... 740
pregnancy, laparotomy for. Tuttle .......................... 623
pregnancy; rupture: laparotomy; recovery. Wylie .......................... 1285
pregnancy, the operative management of. Meyer .......................... 336
pregnancy. Thompson .......................... 810, 865
pregnancy, see also Ectopic, Tubal, etc.

Face presentations, the rectification of. Banta .......................... 1091
Fetal aplasia, a case of. Jaggard .......................... 1209
Fever, puerperal, see Puerperal typhoid, see Typhoid

Fibro-cystic tumor of the uterus successfully removed by laparotomy. Byford .......................... 965
Fibro-cystoma of the uterus. Skene .......................... 1180
Fibroid, a large, with cystiform degeneration. Price .......................... 1200
locked, treated by supra-vaginal hysterectomy, a case of. Meredith .......................... 263
of the ovary, large. Mundé .......................... 292
submucous, of the fundus uteri. Mundé .......................... 958
submucous, of the uterus. Tuttle .......................... 832
tumor of the uterus, a, that occupied the pelvis minor. Parkes .......................... 647
tumors, observations on the nature and treatment of. Wylie .......................... 1053
uterine, malignant degeneration of a; secondary carcinoma of the lungs. Hunter .......................... 74

Fibroids, sloughing intra-uterine, an experience with. Van de Warker .......................... 1059
uterine, from private practice, and their treatment, cases of. Prentiss .......................... 1263, 1304
uterine, on locking, retroversion, and strangulation of, in the pelvic excavation. Duncan .......................... 293
uterine; pro-salpinx. Wylie .......................... 626
uterine, the nature and limitation of operative treatment for. Mundé .......................... 1053

Fibroma of the uterus, contribution to the diagnosis and treatment of cystic. Kleinwaechter .......................... 1228
diffusum of the labia minora. Collyer .......................... 1251

Fillebrown. Psychoses and gynecological operations ................................ 92

Findley. Tubal pregnancy; delivery at six months "per vias naturales"; recovery .......................... 741

Firnig. A new prolapsus operation ................................ 328

Fissures, cranial, in early childhood. Henoch .......................... 446

Fistula, abdomino-intestinal, after laparotomy. Chambers .......................... 298
vesico-vaginal, from unusual cause, with some remarks on vagi-
ginal hysterectomy for cancer. Boldt .......................... 633

Fixation of the uterus by adhesions; Brandt's method of treatment. Boldt .......................... 280

"Fixed uteri." Taylor ................................ 428

Flap operations for lacerated perineum, Tait's. Macphatter .......................... 1146
Flap-splitting and perineorrhaphy, with special reference to Tait's opera-
tion. Werder .......................... 1095
operation for lacerated perineum, my experience with the. Mundé .......................... 673
operation, the, for lacerated perineum. Tait .......................... 1044

Forceps, a new obstetric. Fry ................................ 1165
Forceps for the broad ligament in vaginal hysterectomy. Byford. 962
obstetric, when should it be used; and what form of instrument
is required? Stewart. 724
some points on the perineum and, with a description of a new
method of assisting the perineum, and a new combined
axis traction forceps to be used as an alternative for cran-)
tomy. McGillicuddy. 1241
the application of, to transverse and oblique positions of the
head—description of new forceps. Fry 722
the, as a means of rotating the head in labor. Ill 1090
Ford. Two cases of vicarious menstruation. 154
Foreign body, ulceration of, from the vagina into the bladder, a case
of. Ellison. 144
Foster. A case of hydramum. 196
Frank. A large abdominal tumor attached to the inner surfaces of the
sixth and seventh ribs. 645
Total extirpation of the uterus in non-cancerous cases. 210
Frankel. On enucleation of submucous or intraparietal myomata
through the abdominal cavity (Martin's operation). 892
Freund. On placental retention due to narrowing of the contraction
ring. 1002
On the treatment of malignant growths of the ovary. 1313
The frequency and treatment of malignant ovarian tumors. 331
Tubal operations. 327
Fritsch. The simplification of Cesarean section. 1229
Fruitnight. Spina bifida complicating and obscuring breech presenta-
tion. 838
Fry. A new obstetric forceps. 1165
The application of forceps to transverse and oblique positions of the
head—description of new forceps. 722
Functional perversity of ovaries due to rudimentary development of
Mueller's ducts, castration for. Strauch. 111

G.
Galabin. President's address, Obstetrical Society of London. 875
Gall stones, see Cholecystorrhaphy.
Galvanism, supposed ectopic gestation successfully treated by. Taylor, 741
Galvano-cautery, a digest of twenty years' experience in the treatment of
cancer of the uterus by. Byrne. 1052
Ganghofer. Carcinoma of the uterus in an eight-year-old girl. 445
Garrigues. Report on specimen of human monstrosity presented to the
Obstetrical Society of New York by Dr. Boldt, Decem-
ber 18th, 1888. 1293
The use and abuse of antiseptic injections in obstetric
practice. 1048
Gauze for binders, imitation wire. Abbott. 79
Gehrung. Remarks on the local treatment of the unmarried
Results of suppression of menstruation. 1072
Gestation, prolonged, a case of. Acker 1276, 1306
Gilbert. Birth at the 28th or 29th week of gestation, with survival and
satisfactory development of the child 1118
Glycerin, on the effect of, on the quantity of secretion poured into the
vagina. Herman. 322
Glycaboron, the use of, in gynecology. Parker. 754
Gonorrheal salpingitis. Tuttle. 953
Goodell. A case of extra-uterine fetaion. 1189
Double intraligamental cysts. 170
Extra-uterine fetaion. 424
Ovarian cyst. 425
Ovaries with two pus cavities. 171
Recurrent intraligamental cyst. 422
INDEX TO VOLUME XXII.

Gordon. Extra-uterine pregnancy ; death of fetus at three months, peri-tonitis following ; tedious convalescence; operation six months after; complete recovery .................................. 740

Gottschalk. A case of cavernous metamorphosis of the ovaries .......... 223

Gunter and Doederlein. The disinfection of the parturient canal ....... 669

Gusserow. Experience with pyo-salpinx and its operative removal ... 221

Gynecology and obstetrics, the kinship between. Opie .................. 726

Gyneconia, case of. Coe ........................................ 407

II.

Hadra. Remarks on vaginal prolapse, rectocele, and cystocele .......... 457

Hall. A new clamp for vaginal extirpation of the uterus ................. 660

From Apostoli's clinic ........................................... 1234

Some points in the diagnosis of pyo-salpinx .................................. 1111

Hammond. Pyo-salpinx ............................................ 1068

Handfield-Jones. Chorea in pregnancy ....................................... 1000

Hanks. Clamp with needle attached ....................................... 503

Combined stem and retroversion pessary .................................. 1172

Modified Wathen's uterine dilator ....................................... 937

Sarcoma of the uterus mistaken for fibroid .................................. 529

Hardon. Chronic pelvic cellulitis and the conditions which simulate it........ 218

Harrison. Fatal apoplexy before puberty .................................... 275, 302

Hausen. Concerning the relation between puerperal insanity and puerperal infection .................................................. 335

Haynes. Irrigation of the puerperal uterus: its uses and dangers— with especial reference to the treatment of puerperal fever ........... 118

Heart disease, pregnancy and parturition complicated by. Murray .... 79

failure after operations, Coe ........................................ 296

Hematocele, ante-uterine, a case of; laparotomy; recovery. Berlin .... 495

pelvic, the pathology of ectopic pregnancy and. Wathen, 730, 785

suppurating post-uterine; operation; cure. Bernardy ........................ 1297

Hematoma of the vulva during pregnancy, report of a case of. Ehren- dorfer .............................................................. 1004

Hemorrhage, secondary, after laparotomy—death. Cleveland ............. 296

umbilical: its treatment. Elliot .................................. 1092

uterine, on some uncured cases of. Jackson ................................... 186

Hemorrhagic diseases in the lying-in state and during menstruation. Stumpf .............................................................. 665

Henoch. Cranial fissures in early childhood ................................ 446

Herman. A contribution to the anatomy of the pelvic floor .......... 1233

On the effect of glycerin on the quantity of secretion poured into the vagina .................................................. 322

Sequel to a case of Bright's disease during pregnancy .................. 323

The changes in the pelvic floor which accompany the slighter degrees of prolapse ........................................ 1233

Hernia of the pregnant uterus. Adams .................................. 295, 300

Hernial canal, the vagium as a. Dickinson .................................. 692

Hirsch. On intestinal occlusion after ovariotomy .......................... 333

Hirst. A modified Braun's cranioclast .................................. 95

An intraligamentous cyst .............................................. 174

Six cases of puerperal insanity ........................................ 176

Hoffman. Case of pyo-salpinx ....................................... 639

Cruziotomy and its indications ........................................ 746

The accidents and complications incident and subsequent to abdominal operations ........................................ 1099

Hollister. Notes on acute inversion of the uterus ......................... 1218

Holmes. Cultures of bacteria from the urine of a case of nephritis after scarlet fever ........................................ 200
INDEX TO VOLUME XXII.

Hollis. On the relation of bacteria to puerperal eclampsia ........ 847
Huff. An ischiopagous monster ........................................... 928
Hunter, James Bradbridge. In memoriam .............................. 713
Malignant degeneration of a uterine fibroid; secondary carcinoma
of the lungs .............................................................. 74
Vaginal hysterectomy for epitheliuma corporis uteri .................. 159
Hydramnion, a case of. Foster ........................................... 196
case of diseased placenta, amasarea of fetus, and. Longaker .. 639
Lindley ................................................................. 132
triplets, and monstrosity, a case of, with remarks concern-
ing these three abnormalities. Penney ........................... 1151
Hydrocele in infants. Jacobus ............................................ 769
Hydro-salpinx, double, and left ovarian cyst; abdominal section; re-
moval of both appendages for. Kyuett .............................. 1298
Hygiene versus surgery in gynecology. Carpenter ..................... 486
Hymen, dyspareunia caused by a rare injury of the. Munde .... 1022
imperforate. Jones .................................................. 312
Hypertrophy and laceration of the cervix—anamputation and trachelo-
rhaphy. Wenning .................................................. 314
Hysterectomy, a new method of performing. Crofford ............. 500
early, in carcinoma. Tutte .......................................... 623
cérasur for use in. Wylie ........................................... 627
supra-vaginal, a case of locked fibroid treated by. Merc-
dith ................................................................. 203
supra-vaginal. Montgomery .......................................... 182
the dry extra-peritoneal treatment of the stump in. Price, 1104
vaginal, for complete procidentia. Tuttle ........................... 831
vaginal, for cancer, vesico-vaginal fistula from unusual
cause, with some remarks on. Boldt ............................. 633
vaginal, for epitheliuma of the cervix uteri. Janvrin .......... 1280
vaginal, for epitheliuma corporis uteri. Hunter .................. 159
vaginal. Montgomery ................................................. 181, 1104, 1157
vaginal, pressure forceps versus the suture in. Dudley ...... 826
vaginal, the indications for, with notes on the condition
of the uterine mucosa in cancer of the cervix. Thiem .... 206
vaginal, two cases of. Dudley ...................................... 1214
Hysterical aphasia. Jacobus ............................................ 837
Hystero-myomectomy, a new method of performing. Kelly ....... 375

I.

Icterus gravidarum: report of a case, with remarks. Illoway ...... 1009
Iliac vein, removal of a large ovarian cyst, followed by rupture of the
right common. Taylor ................................................. 1299
III. The forceps as a means of rotating the head in labor .......... 1060
Illoway. Icterus gravidarum; report of a case, with remarks ... 1009
Imperforate hymen. Jones ............................................ 312
Impressions, maternal mental, do they affect the fetus in utero?
Cook ................................................................. 931, 969
In memoriam. August Breisky ........................................ 717
Ellwood Wilson. Parish .............................................. 1169
James Bradbridge Hunter ............................................. 713
Induction of labor for eclampsia, on the question of the. Taylor .. 654
Infarctions, placental, clinical and histological researches in. Rossier .. 670
Infection, puerperal wound, on the problem of further investigations in
the field of. Bumm .................................................. 1007
secondary mixed, in some of the acute infectious diseases of
children. Bayard .................................................. 652
Inflammation, intra-pelvic: its pathology and treatment. McMurtry .... 1102
Injections, antiseptic, in obstetric practice, the use and abuse of. Garr-
gues ................................................................. 1048
Insanity, puerperal, and puerperal infection, concerning the relation be-
tween. Hausen .................................................. 335
Insanity, puerperal, six cases of. Hirst .......................... 176
Intestinal obstruction following removal of the uterine appendages,
   death from. Tuttle .............................................. 952
    obstruction, tubal disease a primary cause of. Price .......... 425
    occlusion after ovariotomy. Hirsch .......................... 323
Intraligamentous cyst, recurrent. Goodell ..................... 422
cysts, double. Goodell ........................................... 170
Intraligamentous cyst, an. Hirst .................................. 174
Intra-uterine fibroids, an experience with sloughing. Van de Warker, 1059
Inversion of the uterus, chronic. Marcy ........................ 719
   of the uterus, notes on acute. Hollister ..................... 1218
   of uterus of sixteen months' standing; replacement; recovery.
   Newman .......................................................... 990
Iodoform gauze, tamponing the puerperal uterus with. Tuttle ... 838
Irrigation of the puerperal uterus: its uses and dangers—with especial
   reference to the treatment of puerperal fever. Haynes .......... 113
Irrigations, hot, after delivery. Deipser ........................ 1313
Irrigator, a combined rectal and intra-uterine. Coleman ....... 1021
Iodoform gauze, tamponing the puerperal uterus with. Tuttle ... 838
Injuries of the bladder during laparatomy ........................ 735
On some uncured cases of uterine hemorrhage .. 186
Intra-uterine therapeutics ........................................ 449, 598, 697
Hydrocele in infants ............................................ 769
Hysterical aphasia ................................................ 897
A case of fetal aplasia ........................................... 1209
An early abortive ovum ........................................... 1212
Anomalies of the placenta ........................................ 659
Etiology of puerperal eclampsia .................................. 848
   The uterus, adnexa, kidneys, and ureters from a case of
eclampsia .......................................................... 318
   Two observations of typhoid fever during pregnancy ....... 318
Vaginal hysterectomy for epitheloma of the cervix uteri . 1280
Imperforate hymen ................................................. 312
Tetanus following ovariotomy ..................................... 785
A new method of performing hystero-myomectomy ............. 375
False polyps of the uterus ....................................... 384
Female escutcheon ................................................ 184
A contribution to the diagnosis and treatment of cystic
   fibroma of the uterus ......................................... 1298
What is the condition of the genital tract in Basedow's
disease? ............................................................. 672
Vaginal hysterectomy for epitheloma of the cervix uteri . 1280
False polyps of the uterus ....................................... 384
Contribution to the diagnosis and treatment of cystic
   fibroma of the uterus ......................................... 1298
What is the normal posture for a parturient woman? ....... 337, 432
False polyps of the uterus ....................................... 1116
A contribution to vaginal cysts .................................. 688
K. ........................................................................... 1116
Kocks. Ovarian capsules without any other opening than the entrance
to the tube ......................................................... 331
K. ........................................................................... 1116
Kocks. Ovarian capsules without any other opening than the entrance
to the tube ......................................................... 331
Kollock. The protective influence of vaccination during the intra-uterine existence of the fetus. 1078
Koplik. A contribution to the literature of massage of the uterus and adnexa. 136
Krasowski. A short report of Cesarean sections performed at the St. Petersburg Maternity from October 16th, 1885, to January 1st, 1888. 234
Krukenberg. On the permeability of the fetal membranes. 103, 671
Kynett. Abdominal section; removal of both appendages for double hydro-salpinx and left ovarian cyst. 1298
Abdominal section; removal of both appendages for double pyo-salpinx and double ovarian abscess; release of adhesions, irritation, and drainage. 1297
Milk cyst, removal of a. 1298

I.

Labia minora, fibroma diffusum of the. Collyver. 1251
Labor, missed, a case of, with remarks on the etiology of this rare phenomenon. Goth. 447
Lacerated perineum, my experience with the flap-splitting operation for. Mundé. 673
perineum, Tait’s flap operations for. Macphatter. 1146
perineum, the flap-splitting operation for. Tait. 1044
Laceration of the cervix, the treatment of, by the obstetrician. Coe. 749
of the vagina in labor. Uncan. 999
Laparatomies, American, an analysis of 1,322 recent unselected. 1227
Laparotomy for asci. Ashby. 44
for extra-uterine fetation, a successful case of. Chenoweth. 147
for extra-uterine pregnancy. Tuttle. 63
injuries of the bladder during. Jackson. 735
repeated, on the same person. Martin. 569
the value of, in the diagnosis and treatment of minor forms of intra-abdominal and intra-pelvic diseases. Ashby. 1075
Lee. Myoma of the uterus. 628
Leonard. A hydrocephalic monster with cerebellum enormously developed outside the cranial cavity. 816
Leopold. Ventral fixation of the retroflexed uterus. 895
Lerch. Contribution to the diagnosis and treatment of carcinoma of the ovary. 1005
Levator ani muscle, studies of the. Dickinson. 897
Ligature box, an antiseptic. Weeks. 1208
escape of a, by ulceration through the abdominal wall. Polk. 1176
of the uterus, the vaginal, and its employment in retroversion and prolapsus uteri. Schuecking. 103
Ligatures and sutures—what material shall we use? Cushing. 1107
Lindley. Hydramnion. 132
Lipoma, abdominal, simulating ovarian tumor, a case of. Jackson. 1057
Local treatment of the unmarried, remarks on the. Gehring. 927
Lockwood. Obliteration of the central canal of the spinal cord in an early human embryo. 323
Lomer. Weight of the individual organs of the new-born. 894
Longaker. A case of placenta previa. 639
Case of diseased placenta, anasarca of fetus, and hydramnion. 639
Lying-in state, studies in the. Temesváry and Baecker. 896

M.

Macphatter. Tait’s flap operations for lacerated perineum. 1146
Magnesium sulphate, concentrated solution of, as an enema, with some points relative to the physiology of the abdominal circulation. Watkins. 1218
Maisel. The treatment of parenchymatous mastitis and inflammation of the mammary gland by white clay. 445
Malignant growths of the ovary, on the treatment of. Freund...... 1313
Malpresentations, the natural rectification of, and its imitation by art. King................................. 561
Mann. A case of tubal pregnancy.............................. 772
Manual treatment, the, in gynecology. Boldt.............. 579
Marburg obstetrical clinic and polyclinic, report of the, for the year ending March 31st, 1888. Ahlfeld...... 448
Marcy. Chronic inversion of the uterus...................... 719
The animal suture: its place in surgery................. 1107
The perineum: its anatomy, physiology, and methods of re-
  storation after injury.................................... 1
Marriages, precocious, results of. Rouvier.................. 1117
Martin. On the alcoholic treatment of puerperal fever...... 1280
Repeated laparatomy on the same person......... 559
The relation of uterine deviation to pregnancy......... 1071
Massage of the pelvis, on gynecological Weissenberg... 1282
of the uterus and adnexa, a contribution to the literature of. Koplik................................. 136
Mastitis, parenchymatous, and inflammation of the mammary gland, the treat-
  ment of, by white clay. Maisel........................ 445
 suppurative, followed by septicemia and metastatic parotitis.
  Wenning........................................... 942, 976
Maternal mental impressions, do they affect the fetus in utero? Cook, 931, 969
Maternity, a series of five hundred confinements in a. Price........ 721
  hospital, a year's work in a. Price................. 642
May. Scarlatinous otitis.................................. 362
McArdle. A case of metremphysema........................ 1105
McGillicuddy. Some points on the perineum and forceps, with a de-
  scription of a new method of assisting the perineum, and a new com-
  bined axis-traction forceps to be used as an alternative for crani-
  otyomy........................................... 1241
McKee. Prolapse of the ovaries............................ 773
Sterility in woman: its etiology and treatment........... 1026
McLaren. Immediate restoration of the perineum after labor... 937
McLean. A child crying in utero.......................... 166
  Sarcoma of the pelvis ................................ 521, 768
McMurtry. A case of extra-uterine pregnancy; operation; recovery, 1042, 1083
Intra-pelvic inflammation: its pathology and treatment ..1102
Meiuer. A reliable catgut suture adapted to Emmet's operation for 102
  cervical lacerations.
Perineorrhaphy according to Lawson Tait..................... 100
Membranes, fetal, the permeability of the. Krukenberg...... 108, 671
Menchmeyer. On the value of subcutaneous injections of chloride of sodium in the treatment of profound anemia....... 1119
Meningitis, acute, an indication for premature delivery. Chambrelent. 1118
Menorrhagia, certain forms of, and treatment of the same. Bizzell. 218
  oophorectomy for. Dudley......................... 297
Menstruation and chlorosis, on the relation between: an analysis of 292
  cases. Stephenson................................. 876
  suppression of, results of. Gehrung................. 1072
  vicarious, two cases of. Ford....................... 154
Mental derangement in the course of early pregnancy and associated with 170
  subinvolution of the uterus. Wyllie.................. 170
Meredith. A case of locked fibroid, treated by supra-vaginal hysterecto-
  my........................................... 203
Metremphysema, a case of. McArdle........................ 1105
Meyer. The operative management of extra-uterine pregnancy.... 936
Micro-organisms, the, of the umbilical stump. Cholmogoroff.... 1003
Milk cyst, removal of a. Kyuett.......................... 1298

Miller. A year's record of seventy-five successful cases of abdominal section .................................. 680
Miller's (Dr.) laparotomy record. Truesdale ................................................................. 1045
Missed labor, a case of, with remarks on the etiology of this rare phenomenon. Goth ............ 447
Monster, a hydrocelephalic, with cerebellum enormously developed outside the cranial cavity. Leonard .......................................................... 816
an ischiopagous. Huff ........................................................................................................... 923
Monstrosity, fetal, without a trace of body. Boldt .......................................................... 403
report on specimen of human, presented to the Obstetrical Society of New York by Dr. Boldt, December 18th, 1888. Garrigues ................................................................. 1292
triplets, and hydramnion, a case of, with remarks concerning these three abnormalities. Penney .... 1151
Montgomery. Clamp .............................................................................................................. 184
Craniotomy upon the living child ......................................................................................... 1109
President's address, Am. Ass'n Obstetricians and Gynecologists ........................................... 1114
Supra-vaginal hysterectomy ............................................................................................... 182
The indications for, and limitations of, the operation for the removal of the appendages ........ 756
Vaginal hysterectomy .......................................................................................................... 181, 1104, 1157
Morrill. Reply to Tait's letter ............................................................................................... 401
Muenchmeyer. Premature expulsion of the placenta, with normal situation of the organ .......... 671
Mundé. A rare case of adeno-myxo-sarcoma of the cervix uteri ........................................ 126, 282
Dyspareunia caused by a rare injury of the hymen ................................................................ 1022
Large fibroid of the ovary ..................................................................................................... 282
My experience with the flap-splitting operation for lacerated perineum ................................. 673
Myxo-adenoma-sarcoma of the uterus ................................................................................... 957
Ovarian cyst ........................................................................................................................... 959
Strangulation in an ovarian tumor by torsion of its pedicle ................................................... 958
Submucous fibroid of the fundus uteri ................................................................................... 958
The nature and limitation of operative treatment for uterine fibroids ...................................... 1053
Two cases of primary epithelioma of the vulva and vagina ................................................ 476
Murray. A crude stem pessary ............................................................................................... 76
Pregnancy and parturition complicated by heart disease ...................................................... 79
Myers. Some considerations on peritoneal effusions after intra-peritoneal operations ................. 1110
Myoma, a uterine, removed by a combined vaginal and abdominal operation; capsule stitched into the abdominal wound. Dudley. 966
and fibro-myo of the uterus and allied tumors of the ovary. Doran ........................................ 201
of the uterus. Lee .................................................................................................................. 628
uterine, enucleation of, by abdominal section. Pichevin ..................................................... 1116
Myomata, enucleation of submucous or intra-parietal, through the abdominal cavity (Martin's operation). Frankel ................................................................. 892
uterine, the therapy of. Ringe ............................................................................................... 1004
uterine, three. Taylor ............................................................................................................. 96
Myomotomies, the question of the intra-parietal treatment of the pedicle after. Schmidt ........... 330
Myxo-adenoma-sarcoma of the uterus. Mundé ................................................................... 957
N.
Nagel. Version in contracted pelvis ....................................................................................... 667
Nelson. Diagnosis and prognosis of puerperal eclampsia .................................................... 848
Nephritis after scarlet fever; cultures of bacteria from the urine of a case of. Holmes ........... 200
Nephrectomy for removal of calculus of kidney. Chadwick .............................................. 1079
New-born, weight of the individual organs of the. Lomer ............................................... 894
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newman</td>
<td>Inversion of the uterus of sixteen months' standing; replacement; recovery</td>
<td>990</td>
</tr>
<tr>
<td>Nicoll</td>
<td>A case of phantom pregnancy, with remarks</td>
<td>160</td>
</tr>
<tr>
<td>Nilsen</td>
<td>A unique case of error of development, with some light upon the pathology of ovarian diseases</td>
<td>284</td>
</tr>
<tr>
<td></td>
<td>Dangerous juniper catgut</td>
<td>158</td>
</tr>
<tr>
<td></td>
<td>Uremia after the administration of ether</td>
<td>167</td>
</tr>
<tr>
<td></td>
<td>Varicosity of the pampiniform plexus as a cause of ovarian pain</td>
<td>156</td>
</tr>
<tr>
<td>Nock</td>
<td>Tubal pregnancy</td>
<td>183</td>
</tr>
<tr>
<td></td>
<td>Non-retention, the, of urine in young girls and women. Sims</td>
<td>917, 939</td>
</tr>
<tr>
<td></td>
<td><strong>O.</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obliteration of the central canal of the spinal cord in an early human embryo. Lockwood</td>
<td>323</td>
</tr>
<tr>
<td></td>
<td>Obstetrics and gynecology, the kinship between, Opie</td>
<td>726</td>
</tr>
<tr>
<td></td>
<td>casuistry in. Parvin</td>
<td>780</td>
</tr>
<tr>
<td></td>
<td>Obstruction, intestinal, following removal of the uterine appendages, death from. Tuttle</td>
<td>952</td>
</tr>
<tr>
<td></td>
<td>intestinal, tubal disease a primary cause of. Price</td>
<td>425</td>
</tr>
<tr>
<td>Odebrecht</td>
<td>Contribution to the question of operative management of ulcerating uterine tumors</td>
<td>333</td>
</tr>
<tr>
<td></td>
<td>Oophorectomy for menorrhagia. Dudley</td>
<td>297</td>
</tr>
<tr>
<td></td>
<td>Opie. The kinship between obstetrics and gynecology</td>
<td>726</td>
</tr>
<tr>
<td></td>
<td>Otitis, scarlatinous. May</td>
<td>362</td>
</tr>
<tr>
<td></td>
<td>Ovarian abscesses, double, abdominal section; removal of both appendages for double pyo-salpinx and; release of adhesions, irrigation, and drainage. Kynett</td>
<td>1297</td>
</tr>
<tr>
<td></td>
<td>capsules without any other opening than the entrance to the tube. Kocks</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>cyst. Goodell.</td>
<td>423</td>
</tr>
<tr>
<td></td>
<td>cyst, large multilocular. Deaver.</td>
<td>1207</td>
</tr>
<tr>
<td></td>
<td>cyst, left, and double hydro-salpinx; abdominal section; removal of both appendages for. Kynett</td>
<td>1298</td>
</tr>
<tr>
<td></td>
<td>cyst, multilocular. Boyd</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td>cyst, multilocular. Perry</td>
<td>829</td>
</tr>
<tr>
<td></td>
<td>cyst, Mundé.</td>
<td>959</td>
</tr>
<tr>
<td></td>
<td>cyst, removal of a large, followed by rupture of the right common iliac vein. Taylor</td>
<td>1299</td>
</tr>
<tr>
<td></td>
<td>cyst. Tuttle.</td>
<td>831</td>
</tr>
<tr>
<td></td>
<td>pain, varicosity of the pampiniform plexus as a cause of.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nilsen</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>pregnancy. Byford</td>
<td>315</td>
</tr>
<tr>
<td></td>
<td>tumor, strangulation in an. by torsion of its pedicle. Mundé.</td>
<td>958</td>
</tr>
<tr>
<td></td>
<td>tumors, large, in a seven-months child. Doran.</td>
<td>669</td>
</tr>
<tr>
<td></td>
<td>tumors, the frequency and treatment of malignant. Freund.</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td>Ovaries and tubes. Price</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>cavernous metamorphosis of the, a case of. Gottschalk</td>
<td>223</td>
</tr>
<tr>
<td></td>
<td>functional perversion of, due to rudimentary development of Mueller's ducts, castration for. Strauch</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td>prolapse of the. McKee</td>
<td>773</td>
</tr>
<tr>
<td></td>
<td>with two pus cavities. Goodell</td>
<td>171</td>
</tr>
<tr>
<td></td>
<td>Ovariatomies, report of thirty-seven. v. Szabo.</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>Ovariotomy, a case of. Weeks</td>
<td>1203</td>
</tr>
<tr>
<td></td>
<td>death from visceral affections after. Coe.</td>
<td>1060</td>
</tr>
<tr>
<td></td>
<td>intestinal occlusion after. Hirsch.</td>
<td>333</td>
</tr>
<tr>
<td></td>
<td>tetanus following. Johnson</td>
<td>755</td>
</tr>
<tr>
<td></td>
<td>Ovary, calcified, associated with uterine fibroid. Sims</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>carcinomas of the, contribution to the diagnosis and treatment of. Lerch</td>
<td>1005</td>
</tr>
<tr>
<td></td>
<td>cysto-fibroma of the. Byford</td>
<td>314</td>
</tr>
<tr>
<td></td>
<td>large fibroid of the. Mundé</td>
<td>282</td>
</tr>
</tbody>
</table>
Ovary, malignant growths of, on the treatment of. Freund. 1313
multilocular cyst of the, with great variety of contents. Boldt. 950
Ovum, an early abortive. Jaggard. 1212
partial rotation of the, in early pregnancy, as a cause of placenta previa. Sawyer. 1077

P.

Pampiniform plexus, varicosity of the, as a cause of ovarian pain. Nilsen. 156
Papilloma, malignant. Badly. 1206
Papoid, three cases of diphtheria in which it was used. Cuthbert. 818, 870
Parish. In memoriam Ellwood Wilson. 1169
Pelvic abscess in the female. 733
Parker. The use of glycochoron in gynecology. 754
Parkes. A fibroid tumor of the uterus that occupied the pelvis minor. 647
Partridge. Disorders of the kidney during pregnancy, in relation to the induction of labor. 469
Parvin. A case of tubal pregnancy, with specimen. 1301
Casinistry in obstetrics. 730
Pedicle after myomotomies, the question of the intra-parietal treatment of the. Schmidt. 330
Pelvic abscess in the female. Parish. 733
cellulitis, chronic, and the condition which simulates it. Hardon. 218
congestion versus pelvic inflammation. Gordon. 1065
floor, a contribution to the anatomy of the. Herman. 1223
floor, the changes in the, which accompany the slighter degrees of prolapse. Herman. 1223
hematocele, the pathology of ectopic pregnancy and. Wathen. 730, 785
viscera, renal disturbances caused by disease of the. Engelmann. 1062
Pelvis, contracted, Cesarean section for, a case of. Champneys. 880
contracted, version in. Nagel. 667
sarcoma of the. McLean. 521, 768
the necessity of recognizing three planes in the obstetric. Seymour. 1097
the Russian female, in its anthropological aspect. Runge. 895
Pemphigus neonatorum, an epidemic of. Kilham. 1069
Penney. A case of triplets, hydramnion, and monstrosity, with remarks concerning these three abnormalities. 1151
Perimetritis, anterior seros, simulating ovarian sarcoma, when explored by abdominal section: recovery, with disappearance of the cyst. Doran. 997
Perineorrhaphy according to Lawson Tait. Meinert. 100
and flap-splitting, with special reference to Tait's operation. Werder. 1095
Perineum, and forceps, some points on the, with a description of a new method of assisting the perineum, and a new combined axis-traction forceps to be used as an alternative for craniotomy. McGillicuddy. 1241
immediate restoration of the, after labor. McLaren. 937
lacerated, my experience with the flap-splitting operation for. Munde. 673
lacerated, Tait's flap operations for. Macphatter. 1146
lacerated, the flap-splitting operation for. Tait. 1044
rupture of the, a new procedure in cases of anticipated complete. Weston. 197
the: its anatomy, physiology, and methods of restoration after injury. Marcy. 1
the management of the, during labor. Clarke. 1093
Peritoneal effusions after intra-peritoneal operations, some considerations on. Myers. 1110
Perityphlitic abscess; laparotomy; recovery. Wylie. 405
<table>
<thead>
<tr>
<th>Index to Volume XXII.</th>
<th>1333</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permeability, the, of the fetal membranes. Krukenberg</td>
<td>106, 671</td>
</tr>
<tr>
<td>Perry. Multilocular ovarian cyst</td>
<td>829</td>
</tr>
<tr>
<td>Pessaries, the abuse of. Ricketts</td>
<td>774</td>
</tr>
<tr>
<td>Pessary, combined stem and retroversion. Hanks</td>
<td>1172</td>
</tr>
<tr>
<td>stem, a crude. Murray</td>
<td>76</td>
</tr>
<tr>
<td>Phantom pregnancy, a case of; with remarks Nicoll</td>
<td>160</td>
</tr>
<tr>
<td>Phillips. On acute non-septic pulmonary disorders as complications of the puerperium</td>
<td>992</td>
</tr>
<tr>
<td>Pichevin. Enucleation of uterine myoma by abdominal section</td>
<td>1116</td>
</tr>
<tr>
<td>Placenta, anomalies of the. Jaggard</td>
<td>650</td>
</tr>
<tr>
<td>its diseases, anasarca of fetus, and hydramnion, case of. Longaker</td>
<td>639</td>
</tr>
<tr>
<td>double, with single child Taylor</td>
<td>441</td>
</tr>
<tr>
<td>premature expulsion of the, with normal situation of the organ. Muenchmeyer</td>
<td>671</td>
</tr>
<tr>
<td>previa, a case of. Longaker</td>
<td>639</td>
</tr>
<tr>
<td>previa, partial rotation of the ovum in early pregnancy as a cause of. Sawyer</td>
<td>1077</td>
</tr>
<tr>
<td>previa. Stanton</td>
<td>535</td>
</tr>
<tr>
<td>previa, the diagnosis of, by palpation of the abdomen. Spencer</td>
<td>994</td>
</tr>
<tr>
<td>Placental infarctions, clinical and histological researches in. Rossier</td>
<td>670</td>
</tr>
<tr>
<td>retention due to narrowing of the contraction ring. Freund</td>
<td>1002</td>
</tr>
<tr>
<td>Polk. Escape of a licature by ulceration through the abdominal wall</td>
<td>1116</td>
</tr>
<tr>
<td>The surgical treatment of posterior displacements of the uterus</td>
<td>1066</td>
</tr>
<tr>
<td>Polyps, false, of the uterus. Klasson</td>
<td>1116</td>
</tr>
<tr>
<td>Porro's operation, inversion of the stump after. Beaumont</td>
<td>326</td>
</tr>
<tr>
<td>Posture, what is the normal, for a parturient woman? King</td>
<td>337, 492</td>
</tr>
<tr>
<td>Potter. Note on some gynecic uses of boric acid</td>
<td>719</td>
</tr>
<tr>
<td>Precocious marriages, results of. Rouvier</td>
<td>1117</td>
</tr>
<tr>
<td>Pregnancy and parturition complicated by heart disease. Murray</td>
<td>79</td>
</tr>
<tr>
<td>as concealed: its relations to abdominal surgery. Vander Veer</td>
<td>731, 1121</td>
</tr>
<tr>
<td>ectopic, the pathology of, and pelvic hematocoele. Wathen</td>
<td>730</td>
</tr>
<tr>
<td>extra-uterine, see Extra-uterine, Ectopic, etc.</td>
<td></td>
</tr>
<tr>
<td>Premature birth, see Birth</td>
<td></td>
</tr>
<tr>
<td>expulsion of the placenta, with normal situation of the organ. Muenchmeyer</td>
<td>671</td>
</tr>
<tr>
<td>Prentiss. Cases of uterine fibroids from private practice, and their treatment</td>
<td>1263, 1310</td>
</tr>
<tr>
<td>Pressure forces versus the suture in vaginal hysterectomy. Dudley</td>
<td>826</td>
</tr>
<tr>
<td>Price. A large fibroid with cystiform degeneration</td>
<td>1200</td>
</tr>
<tr>
<td>A series of five hundred confinements in a maternity</td>
<td>721</td>
</tr>
<tr>
<td>A substitute for Senn's plates</td>
<td>1207</td>
</tr>
<tr>
<td>A year's work in a maternity hospital</td>
<td>642</td>
</tr>
<tr>
<td>Intra-uterine cord amputations of the fetal extremities</td>
<td>1090</td>
</tr>
<tr>
<td>Ovaries and tubes</td>
<td>177</td>
</tr>
<tr>
<td>Pyo-salpinx with rupture</td>
<td>92</td>
</tr>
<tr>
<td>The dry extra-peritoneal treatment of the stump in hysterectomy</td>
<td>1104</td>
</tr>
<tr>
<td>Tubal disease a primary cause of intestinal obstruction</td>
<td>435</td>
</tr>
<tr>
<td>Procedentia, vaginal hysterectomy for complete. Tuttle</td>
<td>831</td>
</tr>
<tr>
<td>Prolapso of the ovaries. McKee</td>
<td>779</td>
</tr>
<tr>
<td>vaginal, a case of complete, treated successfully by closure of the vagina.—Absence of the uterus. Stone</td>
<td>398</td>
</tr>
<tr>
<td>vaginal, rectocele, and cystocele, remarks on. Hadra</td>
<td>457</td>
</tr>
<tr>
<td>see also Pelvic floor Prolapsum operation, a new. Firnig</td>
<td>328</td>
</tr>
<tr>
<td>Prolonged gestation, a case of. Acker</td>
<td>1376, 1306</td>
</tr>
<tr>
<td>Pryor. Seminal emissions at the age of five and a half years</td>
<td>521</td>
</tr>
<tr>
<td>Psychoses and gynecological operations. Fillibrrown</td>
<td>32</td>
</tr>
<tr>
<td>Puerperal convulsions. Wenning</td>
<td>304</td>
</tr>
</tbody>
</table>
Puerperal eclampsia, bleeding in. Clarke..........................855
  eclampsia, diagnosis and prognosis of. Nelson.....................848
  eclampsia, etiology of. Jaggard.............................843
  eclampsia, on the relation of bacteria to. Holmes.................847
  eclampsia, prophylaxis of. Doering..........................850
  eclampsia, the treatment of. Earle..........................851
  insanity and puerperal infection, concerning the relation be-
  tween. Hansen..............................................335
  insanity, six cases of. Hirst.................................176
  fever, irrigation of the puerperal uterus; its uses and dangers
  —with especial reference to the treatment of. Haynes...........113
  fever, on the alcoholic treatment of. Martin...................1230
  septicemia. Shoemaker......................................1194
  wound infection, on the problem of further investigations in
  the field of. Bumm........................................1007

Pulmonary disorders, acute non-septic, as complications of the puer-
perium. Phillips...............................................992
  Pump, Allen's surgical. Tuttle...............................831
  Pus cavities, ovaries with two. Goodell..................171
  Pyelo-nephritis, advanced, in an infant. Wendt..............709
  Pyo-salpinx and its operative removal, experience with. Gusserow..231
  case of. Hoffman....................................639
    double, and double ovarian abscesses; abdominal section; re-
    moval of both appendages for, release of adhesions, ir-
    rigation, and drainage. Kynett..........................1297
  double, with fistulous opening into the rectum. Dudley........1280
  Hammond.................................................168
  some points in the diagnosis of. Hall........................1111
  uterine fibroids. Wyhe....................................626
  with rupture. Price.........................................92

R.

Rectocele and cystocele, remarks on vaginal prolapse and. Hadra......457
  Reed. Treatment of the ruptured parturient uterus, with report of two
  cases .................................................1087
  Vaginal extirpation of the uterus for cancer of the cervix....442
  Renal disturbances caused by disease of the pelvic visera. Engelmann, 1062
  Report of the Marburg Obstetrical Clinic and Polyclinic for the year
    ending March 31st, 1888. Ahlfeld..........................448
  Retention, placental, due to narrowing of the contraction ring. Freund, 1002
  Retro-deviation, uterine, the relation of, to pregnancy. Martin......1071
  Retroflexed uterus, ventral fixation of. Leopold................895
  Retroversion and prolapsus uteri, the vaginal ligature of the uterus and
    its employment in. Schuecking..........................103
    of the uterus with adhesions, surgical treatment of, with
    new method of shortening the round ligaments.
    Wylie..............................................478
    with adhesions; cystic ovary; laparotomy. Wylie...........760
    with adhesions. laparotomy. Dudley......................758
  Reviews. Bigelow. Gynecological Electro-Therapeutics.............1226
  Billington. Diphtheria: Its Nature and Treatment..............663
  Davenport. Diseases of Women. A Manual of Non-Sur-
    gical Gynecology, designed especially for the Use of
    Students and General Practitioners........................1225
  Keating. Cyclopaedia of the Diseases of Children: Medical
    and Surgical ..........................................884
  Massey. Electricity in the Diseases of Women..................782
  Mundé. Electricity as a Therapeutical Agent in Gynecology.
    Translated into French by P. Ménière; and into
    Russian by M. Popialkowsky.............................317
  O'Dwyer. Intubation in Croup and other Acute and Chronic
    Forms of Stenosis of the Larynx..........................663
Reviews. Parvin. Obstetric Nursing ........................................... 1226
Playfair. A Treatise on the Science and Practice of Midwifery ...... 1225
Schaute. Bericht über die Thätigkeit der Geburtsüblich-Gynaekologischen Klinik zu Innsbruck.—Report of the Obstetrical and Gynecological Clinic at Innsbruck. . . . . 783
Schultze. The Pathology and Treatment of Displacements of the Uterus .............................................................. 445
Sinclair. Gonorrheal Infection in Women .............................. 332
Skene. Treatise on the Diseases of Women, for the Use of Students and Practitioners ................................................. 211
Strahan. The Diagnosis and Treatment of Extra-uterine Pregnancy ................................................................. 663
Tait. Lectures on Ectopic Pregnancy and Pelvic Hematocele ................................................................. 663
Transactions of the American Association of Obstetricians and Gynecologists ....................................................... 664
Transactions of the American Gynecological Society, Vol. XIII ........................................................................... 333
Transactions of the Southern Surgical and Gynecological Association .............................................................. 1227
Verhandlungen der Deutschen Gesellschaft für Gynäkologie: Zweiter Kongress.—Transactions of the German Gynecological Association: Second Session. Edited by Kaltenbach and Schwarz ...................................................... 217
Walton. Contribution à l’Etude de la Pelvi-Peritonite, son Traitement par la Dilatation Forcee et le Curettage de l’Utérus.—Contribution to the Study of Pelvic Peritonitis and its Treatment by Forcible Dilatation and Curettage of the Uterus ................................................................. 109
Ricketts. The abuse of pessaries ............................................. 774
Ringe. The therapy of uterine myomata ................................ 1004
Rossier. Clinical and histological researches in placental infarctions. 670
Rotating the head in labor, the forces as a means of. Ill. ................ 1090
Rotation, partial, of the ovum in early pregnancy as a cause of placenta previa. Sawyer ............................................... 1077
Round ligaments, Alexander’s operation, with a new method for securing the. Carpenter ..................................................... 743
ligaments, new method of shortening, surgical treatment of retroversion of the uterus with adhesions, with. Wylie .................................................................................. 478
Rouvier. Results of precocious marriages ................................ 1117
Runge. The Russian female pelvis in its anthropological aspect .... 895
Rupture of the perineum, a new procedure in cases of anticipated complete. Weston ................................................................. 197
of the umbilical cord during labor, with the report of a case of laceration of the abdominal walls in an infant. Werder .................................................................................. 149
Ruptured parturient uterus, treatment of the, with report of two cases. Reed ................................................................. 1087
Rush, Benjamin, obstetrician, the medals of. Storer ............ 718
Russian female pelvis, the, in its anthropological aspect. Runge .................................................................................. 895
Salpingitis, gonorrheal. Tuttle ........................................ 953
specimens of. Tuttle ........................................ 624
Salpingo-ovaritis, electrical treatment of. Apostoli ........ 751
Sarcoma, a peri-urethral. Thiem .................................... 526
of the pelvis. McLean ........................................ 524
of the uterus mistaken for fibroid. Hanks .................... 522
Sawyer. Partial rotation of the ovum in early pregnancy as a cause of placenta previa ........................................ 1077
Scarlatinous ostitis. May ........................................ 362
Scarlet fever, nephritis after, cultures of bacteria from the urine of a case of. Holmes ........................................ 200
Schmidt. The question of the intra-parietal treatment of the pedicle after myomotomies ........................................ 339
Schneiding. The vaginal ligature of the uterus and its employment in retroversion and prolapsus uteri ........................................ 103
Schuhz. The trial tampon and its value in the recognition of chronic endometritis . ........................................ 1231
Secondary hemorrhage after laparotomy—death. Cleveland . 296
Section, Cesarean, see Cesarean ....................................
Seminal emissions at the age of five and a half years. Pryor .... 521
Semn's plates, a substitute for. Price ................................ 1307
Septicemia, puerperal. Shoemaker ................................ 1194
Seymour. The necessity of recognizing three planes in the obstetric pelvis ........................................ 1007
Shoemaker. Puerperal septicemia ..................................... 1194
Sims. Calcified ovary associated with uterine fibroid ........ 77
The non-retention of urine in young girls and women ........... 917, 959
Skene. Fibro-cystoma of the uterus ................................ 1180
Skutsch. Further contribution to the subject of conservative Cesarean section ........................................ 666
Small-pox, shall the physician resign his obstetric practice while treating? Wassinger ........................................ 621
Smith. A year's experience with Apostoli's method, with reports of cases ........................................ 794
Case of tubal gestation ........................................ 259
Sodium chloride, on the value of subcutaneous injections of, in the treatment of profound anemia. Menchmeyer .......... 1119
Spencer. The diagnosis of placenta previa by palpation of the abdomen ........................................ 994
Sperling. Two cases of triple birth .................................. 1007
Spina bifida complicating and obscuring breech presentation. Fruitnight ........................................ 838
Spinal cord, obliteration of the central canal of, in an early human embryo. Lockwood ........................................ 323
Spleen, enlarged, diagnosed as uterine myoma, clinical and post-mortem report of an. Douglas ........................................ 357
Sponges should be in the charge of a special nurse during laparotomy. Coe ........................................ 166
Stanton. Placenta previa ........................................ 535
Steinbach. The sterility of marriage: its causes and treatment ........................................ 552
Stem, glass, for trachorrhaphy operations. Cleveland ........ 78
pessary, a crude. Murray ........................................ 76
Stephenson. On the relation between chlorosis and menstruation: an analysis of 223 cases ........................................ 876
Sterility and dysmenorrhea, a report of eighty cases of rapid dilatation of the uterine canal for the cure of. Townsend ........ 1271
in woman: its etiology and treatment. McKee .............. 1026
of marriage, the: its causes and treatment. Steinbach .... 552
Stewart. When should the obstetric forceps be used; and what kind of instrument is required? ........................................ 724
INDEX TO VOLUME XXII.

Stone. A case of complete vaginal prolapse treated successfully by closure of the vagina.—Absence of the uterus 400
Storer. The medals of Benjamin Rush, obstetrician 1044
Strangulation in an ovarian tumor by torsion of its pedicle. Mundé 865
Strauch. Castration for functional perversion of the ovaries due to rudimentary development of Mueller's ducts 1104
Stumpf. Hemorrhagic diseases in the lying-in state and during menstruation 1107
Suppression of menstruation, results of. Gehring 1107
Suppurative disease of the uterine appendages, the treatment of. Boldt, 262
Suprarenal capsule, fatty tumor of the. Byford 1107
Supra-vaginal hysterectomy, a case of locked fibroid treated by. Meredith 203
Surgery, abdominal, how the refinements of, have influenced general surgery. Barrow 1044
versus hygiene in gynecology. Carpenter 1044
Suture, catgut, a reliable, adapted to Emmet's operation for cervical lacerations. Meinert 1107
the animal: its place in surgery. Marcy 1107
Sutures and ligatures—what material shall we use? Cushing 1107
Szabo (von). Report of thirty-seven ovariotomies 1107

T.

Tait. Tait versus Morrill on ruptured tubal pregnancy 1044
The flap-splitting operation for lacerated perineum 1107
Tait's flap operations for lacerated perineum. Macphatter 1044
Tampon, the trial, and its value in the recognition of chronic endometritis. Schultz 1107
Tamponing the puerperal uterus with iodiform gauze. Tuttle 865
Taylor. Double placenta with single child. 865
Fixed uteri 865
On the question of the induction of labor for eclampsia 865
Removal of a large ovarian cyst, followed by rupture of the right common iliac vein 865
Supposed ectopic gestation successfully treated by galvanism 865
Three uterine myomata 1044
Twins with separate placenta 1107
Temesváry and Baecker. Studies in the lying-in state 1044
Tetanus following ovariotomy. Johnson 1107
Therapeutics, intra-uterine. Jacob. 440, 598, 697
Thiem. A peri-urethral sarcoma 1044
The indications for vaginal hysterectomy, with notes on the condition of the uterine mucosa in cancer of the cervix 1044
Thompson. Extra-uterine pregnancy 1044
Townsend. A report of eighty cases of rapid dilatation of the uterine canal for the cure of dysmenorrhea and sterility 1044
Trachelorrhaphy, intermediate. Boldt 865
operations, glass stem for. Cleveland 1044
Triple birth, two cases of. Sperl. 1044
Triplets, hydramnion, and monstrosity, a case of, with remarks concerning these three abnormalities. 'Penney 1044
Trocars, vaginal ovariotomy. Byford 1044
Truesdale. Dr. Miller's laparotomy record 1044
Tubal disease a primary cause of intestinal obstruction. Price 1044
Tubal gestation, case of. Smith 1044
operations. Freund 1044
pregnancy, a case of, with specimen. Baldy 865
pregnancy, a case of, with specimen. Parvin 865
Tubal pregnancy, a case of. Dixon ........................................ 772
pregnancy, a case of. Mann ........................................... 772
pregnancy; delivery at six months "per vias naturales"; recovery. Findley ........................................... 741
pregnancy, laparotomy for probable, subsequent to rupture. Boldt ........................................... 949
pregnancy. Nock ........................................... 183
pregnancy; operation. Tuttle ........................................... 951
pregnancy, ruptured, Tait es, Morrill on. Tait ........................................... 400
Tuttle. Allen's surgical pump ........................................... 831
Death from intestinal obstruction following removal of the uterine appendages ........................................... 952
Early hysterectomy in carcinoma ........................................... 623
Extra-peritoneal cyst ........................................... 953
Gonorrheal salpingitis ........................................... 953
Laparotomy for disease of the appendages ........................................... 831
Laparotomy for extra-uterine pregnancy ........................................... 632
Ovarian cyst ........................................... 831
Specimens of salpingitis ........................................... 624
Submucous fibroid of the uterus ........................................... 832
Tamponing the puerperal uterus with iodoform gauze ........................................... 838
Tubal pregnancy; operation ........................................... 951
Vaginal hysterectomy for complete procidentia ........................................... 831
Twins with separate placenta. Taylor ........................................... 441
Typhoid fever during pregnancy. two observations of. Jaggard ........................................... 318

U.
Umbilical cord, rupture of the, during labor, with the report of a case of laceration of the abdominal walls in an infant. Werder ........................................... 149
hemorrhage: its treatment. Eliot ........................................... 1092
stump, the micro-organisms of the. Cholmogoroff ........................................... 1003
Unmarried, remarks on the local treatment of. Gehring ........................................... 927
Urachus, congenital sinus of. Vander Veer ........................................... 1082
Uremia after the administration of ether. Nilsen ........................................... 167
Urter, calculus from the right. Byford ........................................... 963
Ureteral calculus. Byford ........................................... 314
Urine, the non-retention of, in young girls and women. Sims ........................................... 917
Uteri, fixed. Taylor ........................................... 338
Uterine appendages, the treatment of suppurative disease of the. Boldt ........................................... 262
canal, rapid dilatation of, for the cure of dysmenorrhea and sterility, a report of eighty cases of. Townsend ........................................... 1271
dilator, modified Wathen's. Hanks ........................................... 957
diseases, a review of the treatment of; by electricity. Buist ........................................... 347
fibroid, malignant degeneration of a; secondary carcinoma of the lungs. Hunter ........................................... 74
fibroids, on locking, retroversion, and strangulation of, in the pelvic excavation. Duncan ........................................... 263
fibroids; pyo-salpinx. Wylie ........................................... 626
fibroids, the nature and limitation of operative treatment for Mundé ........................................... 1053
fibroids from private practice, and their treatment, cases of. Prentiss ........................................... 1263
hemorrhage, on some uncured cases of. Jackson ........................................... 180
myoma, a, removed by a combined vaginal and abdominal operation; capsule-stitched into the abdominal wound. Dudley ........................................... 966
myoma, enucleation of, by abdominal section. Pichevin ........................................... 1116
myomata, the therapy of. Ringe ........................................... 1004
myomata, three. Taylor ........................................... 96
retro-deviation, the relation of, to pregnancy. Martin ........................................... 1071
tumors, ulcerating, contribution to the question of operative management of. Odebrecht ........................................... 339
INDEX TO VOLUME XXII.  

PAGE

Uterus, a fibroid tumor of the, that occupied the pelvis minor. Parkes. 647
and adnexa, massage of the, a contribution to the literature of.
Koplik .......................................................... 136
cancer of the, a digest of twenty years' experience in the treat-
ment of, by galvano-cautery. Byrne. ................................. 1052
carcinoma of the, in an eight-year-old girl. Ganghofer. 445
chronic inversion of the. Marcy ........................................ 719
cysto-fibro-myoma of the. Byford. ................................. 316
false polyps of the. Klasson ........................................... 1116
fibro-cystic tumor of the, successfully removed by laparotomy.
Byford ................................................................. 965
fibro-cystoma of the. Skene ........................................... 1180
fibroma of the, contribution to the diagnosis and treatment of
     cystic. Kleinwaechter ............................................ 1238
fixation of the, by adhesions; Braundt's method of treatment.
Boldt ................................................................. 290
hernia of the pregnant. Adams ................................. 225, 300
inversion of, of sixteen months' standing; replacement; recovery.
Newman ................................................................. 990
inversion of the, notes on acute. Hollister .......................... 1218
myoma of the. Lee .......................................................... 628
myxo-adeno-sarcoma of the. Mundé ................................ 957
on myoma and fibro-myoma of the, and allied tumors of the
     ovary. Doran .......................................................... 201
posterior displacements of the, the surgical treatment of. Polk, 1066
reflexed, ventral fixation of the. Leopold ............................ 895
retroversion of the, with adhesions, surgical treatment of, with
     new method of shortening the round ligaments. Wyllie 478
ruptured parturient, treatment of the, with report of two cases.
Reed ................................................................. 1087
sarcoma of the, mistaken for fibroid. Hanks ............................ 523
submucous fibroid of the. Tuttle ..................................... 832
total extirpation of the, in non-cancerous cases. Frank 310
vaginal extirpation of the, for cancer of the cervix. Reed 442

V.

Vaccination, the protective influence of, during the intra-uterine exist-
ence of the fetus. Kollock ................................. 1078
Vagina, laceration of the, in labor. Duncan ........................................ 999
the, as a hernial canal. Dickinson ...................................... 692
ulceration of a foreign body from the, into the bladder, a case
     of. Ellison .......................................................... 144
Vaginal cysts, a contribution to. Kleinwaechter 668
extirpation of the uterus for cancer of the cervix. Reed 442
hysterectomy for complete procidentia. Tuttle .......................... 831
hysterectomy for epithelioma of the cervix uteri. Janvrin 1230
hysterectomy for epithelioma corporis uteri. Hunter 159
hysterectomy. Montgomery ........................................... 181, 1104, 1157
hysterectomy, pressure forceps versus the suture in. Dudley 826
hysterectomy, the indications for, with notes on the condition of
     the uterine mucosa in cancer of the cervix. Thiem 206
hysterectomy, two cases of. Dudley .................................... 1214
prolapse, a case of complete, treated successfully by closure of
     the vagina.—Absence of the uterus. Stone .......................... 398
prolapse, rectocele, and cystocele, remarks on. Hadra 457
Van de Warker. An experience with sloughing intra-uterine fibroids. 1059
Vander Veer. Concealed pregnancy: its relation to abdominal sur-
gery ................................................................. 731, 1121
Congenital sinus of the urachus ........................................ 1082
Variocoele, so-called, in the female. Coe .................................. 504
INDEX TO VOLUME XXII.

VARICOSEITY OF THE PAMPINITON PLEXUS AS A CAUSE OF OVARIAN PAIN. Nilsen. 156
VENTRAL FIXATION OF THE RETROFLEXED UTERUS. Leopold. 895
VERSION IN CONTRACTED PELVIS. Nagel. 697
VESICAL CALCULUS CONTAINING A HAIRPIN. Dudley. 757
VESICO-VAGINAL FISTULA FROM UNUSUAL CAUSE, WITH SOME REMARKS ON VAGINAL Hysterectomy for Cancer. Boldt. 633
VARICIOUS MENSTRUATION, TWO CASES OF. Ford. 151
VISCERAL AFFECTIONS AFTER OVARIOTOMY, DEATH FROM. Coe. 1069
VULVA AND VAGINA, EPITHELION OF THE, TWO CASES OF PRIMARY. Mundé. 476
HEMATOMA OF THE, DURING PREGNANCY, REPORT OF A CASE OF. Ehren-dorfer. 1004

W.

WATHEN. IS CRANIOTOMY UPON THE LIVING CHILD JUSTIFIABLE? . 1233
THE PATHOLOGY OF ECTOPIC PREGNANCY, AND PELVIC HEMATOMA... 730, 785
WATKINS. CONCENTRATED SOLUTION OF MAGNESIUM SULPHATE AS AN ECZEMA, WITH SOME POINTS RELATIVE TO THE PHYSIOLOGY OF THE ABDOMINAL CIRCULATION. 1218
WEEKS. A CASE OF OVARIOTOMY. 1203
AN ANTI-SEPTIC LIGATURE BOX. 1208
WEISSENBERG. ON GYNECOLOGICAL MASSAGE OF THE PELVIS. 1232
WENDT. ADVANCED PYELO-NEPHritis IN AN INFANT. 709
WENNING. HYPERTROPHY AND LACERATION OF THE CERVIX—AMPUTATION AND TRACHEORRAPHY. 311
PERCUTANEOUS CONVULSIONS. 304
SUPPURATIVE MASTITIS FOLLOWED BY SEPTICEMIA AND METASTATIC PAROTITIS. 942, 976
WILDER. FLAP-SPLITTING AND PERINEORRAPHY, WITH SPECIAL REFERENCE TO TAIT'S OPERATION. 1095
RUPTURE OF THE UMBILICAL CORD DURING LABOR, WITH THE REPORT OF A CASE OF LACERATION OF THE ABDOMINAL WALLS IN AN INFANT. 149

WESSINGER. SHALL THE PHYSICIAN RESIGN HIS OBSTETRIC PRACTICE WHILE TREATING SMALL-POX? 621
WESTON. A NEW PROCEDURE IN CASES OF ANTICIPATED COMPLETE RUPTURE OF THE PERINEUM. 197
WHITE. ELECTRICITY IN GYNECOLOGY. 979
WILSON. ANNUAL ADDRESS, AM. GYNECOLOGICAL SOCIETY. 1058
ELLWOOD, IN MEMORIAM. PARISH. 1169
WINTER. A CASE OF ABSENCE OF THE BLADDER. 874

WYLIE. CYST OF THE BROAD LIGAMENT; LAPARATOMY; ANOMALOUS COURSE OF THE URETER. 407
ECRASEUR FOR USE IN HYSTERECTOMY. 627
EXTRA-UTERINE PREGNANCY; RUPTURE; LAPARATOMY; RECOVERY. 1285
MENTAL DERANGEMENT IN THE COURSE OF EARLY PREGNANCY AND ASSOCIATED WITH SUBINVOLUTION OF THE UTERUS. 770
OBSERVATIONS ON THE NATURE AND TREATMENT OF FIBROID TUMORS. 1055
PERITUBAL ABSCESS; LAPARATOMY; RECOVERY. 405
RETROVERSION WITH ADHESIONS; CYSTIC OVARY; LAPARATOMY. 760
SURGICAL TREATMENT OF RETROVERSION OF THE UTERUS WITH ADHESIONS, WITH A NEW METHOD OF SHORTENING THE ROUND LIGAMENTS. 478
UTERINE FIBROIDS; PYO-SALPINGX. 626

Y.

YEAR'S RECORD, a, OF SEVENTY-FIVE SUCCESSFUL CASES OF ABDOMINAL SECTION. MILLER. 680
WORK, a, IN A MATERNITY HOSPITAL. PRICE. 642