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Original Communications.

ON THE RADICAL CURE OF INGUINAL AND FEMORAL HERNIA BY OPERATION.*

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The familiar drawings which I here place before you, representing six different, well-recognized and accepted operations now in vogue, not to mention the many modifications recommended, all directed to the radical cure of hernia, furnish me with a reasonable excuse for presenting to the members of the Association of my *alma mater* a subject on which surgeons hold such a diversity of opinions. The various procedures to cure hernia—operative and otherwise—that have been practiced from time immemorial till the present have been so thoroughly described and demonstrated to us by not a few American and European surgeons, that I do not deem it necessary to inflict upon you to listen to any of the ancient history of this subject, nor shall refer to but the more recent operations by the open method, and of these, only those that are being performed to-day the world over.

A careful study of the anatomy and pathology of the abdominal wall in hernia, and an inquiry into the various master operations, bring me to the conclusion that not one operation yet recommended fulfils all the indications requisite for a radical cure. In this decision I am supported by a study of the relapses, and by my own experience. It is surprising what little attention, in works on hernia, is paid to the pathology of the abdominal wall. It is the dyke that must be walled up and cemented to prevent leakage. Let the passive intra-abdominal pressure predisposing to rupture be what it may—elongated mesentery, large omen-

tum or what not—we cannot hope to lessen that to any extent; but we can strengthen the abdominal wall, at the seat of rupture, in such a manner as not only to withstand the passive, but also, in the vast majority of cases, resist the active pressure within the abdomen while straining, lifting, etc. In aiming at a radical cure, it is most important to obtain more strength at the seat of rupture than Nature had provided in these cases. If we simply restore the normal rotundity of the peritoneum, the internal ring and canal, as they were in them before the rupture, it is clear that under the same conditions and with similar causes at work, a recurrence would be almost sure to follow.

Let us briefly consider the anatomical and pathological weak points in the abdominal wall in ruptured cases of the oblique inguinal variety.

1. *The dimpling at the internal ring.*—This is the congenital depression in the transversalis fascia at the origin of the spermatic cord, where the vas deferens and the vessels meet. The mere passage of such a vascular cord would lessen the resisting power of the fascia, but when the structures which form it come from different directions, an additional condition, a V-shaped space exists, which predisposes to the occurrence of a rupture. The peritoneum lining it has very little to do with the strength of the belly-wall. It is the transversalis fascia that is the all-powerful structure. Its resisting quality is beautifully demonstrated when cutting the abdominal wall while doing an operation or a post-mortem, especially when the intra-abdominal pressure is great, due to the presence of growths or the accumulation of gas, for just as soon as the transversalis fascia is severed, out bulges the peritoneum. The internal abdominal ring is formed by this strong fascia, and once the internal pressure overcomes its resistance here, and it is left without artificial support being supplied, a complete rupture is sure to occur. The hernial protrusion acts like a wedge from within outwards, and forces the structures surrounding the deep ring and inguinal canal asunder.

2. The transversalis fascia is, in old-standing cases, eventually pushed downward, inward and backward, until the lower border of the ring not infrequently reaches the level of the pubic bone. The small normal infundibuliform process has be-

* Read before the Alumni Association of Trinity Medical College, Toronto, on the 4th of April, 1895.

come a large funnel-shaped cavity, so graphically described by Sir Astley Cooper years ago. The importance, therefore, of restoring the deep ring to as small a size as possible, without damaging the cord, and of obliterating the pathological funnel-shaped depression, is all-important. Macewen was the first to recognize that these two conditions (a) the anatomical infundibuliform process, (b) the acquired funnel-shaped depression, must be counteracted in order to prevent frequent relapses after operation for the cure of hernia, and this he aimed at doing by making use of the sac as a plug, at the peritoneal aspect of the internal abdominal ring.

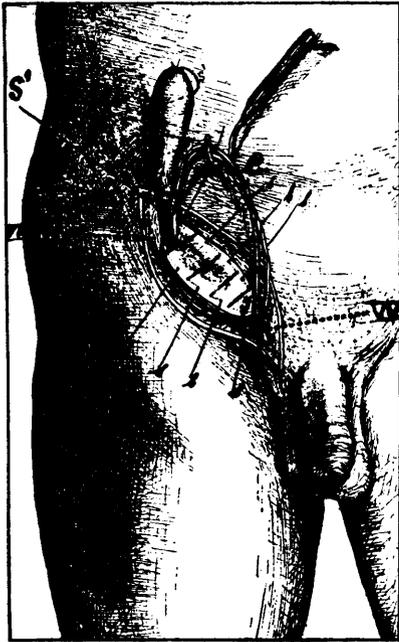


PLATE I.

S.—Sac.
 S.—Suture in the sac.
 C.—Cord.
 W.—Veins excised.
 T.—Transversalis fascia showing the deep ring enlarged.
 SSSS.—Sutures in T. restoring the internal abdominal ring.

My experiences with Macewen's operation, in all those cases where there was a good-sized sac, and not too large an internal ring, nor an hypertrophied cord present, was all that could be desired. It is valuable to retain the sac, but when it is insignificantly small, and the transversalis fascia (at the deep ring) exceedingly relaxed and low down, it is not sufficient to fill the whole concavity at the seat of rupture. Let me say, however, that a small sac folded upon itself is

better than no sac at all, and in support of using it as a tampon, let me here repeat what I have so often said before, that it is not much more liable to become absorbed than a severed tendo-Achilles, because, somewhat like it, its structure is comparatively a passive one, and fully matured white fibrous tissue. It has been my fortune to examine an anatomical preparation in the possession of Prof. Macewen, from a patient cured by his operation, who, without wearing a truss, had done heavy work for years, and then died of an aortic aneurism. The specimen showed the inguinal canal firmly closed, and at the abdominal aspect of the internal ring lay the sac folded upon itself into a dense cushion, which absolutely prevented any chance of a return of the hernia. Macewen stated that the rupture was one of long standing, and the sac very large and composed mainly of mature fibrous tissue. Should the rupture be recent and the sac principally composed of the elastic delicate peritoneum, then we could readily understand the correctness of Bassini's observation, that at an autopsy 95 days after an operation somewhat like Macewen's, not a trace of the tampon could be differentiated. I fancy, however, that the peritoneum must have been somewhat thickened at that situation, although the reparative plastic material had obscured it. That the tampon "must of necessity leave a hard painful swelling slow to disappear," as stated by Marcy, of Boston, has not been my observation in a single instance of a large number of cases.

3. The third condition, a pathological one necessary to counteract, is the overstretched condition of the transversalis fascia behind the spermatic cord, which is easily demonstrated by raising the cord from its bed. Bassini, Halsted, Marcy and others have recognized the importance of restoring the tensivity of this strong fascia, and forming a new deep ring by suturing it from below upwards. Whereas Marcy does not, like Halsted and some others, cut through it, I prefer to follow somewhat in his footsteps, as being safer and more secure, particularly with my inversion stitches.

4. The spermatic cord is sometimes increased in bulk, by supernumerary and dilated veins. To Halsted is due the credit of counteracting this pathological condition, by removing all but one or two of the enlarged veins before making a new deep ring. A large cord, carrying a consid-

erable volume of blood, must have been a frequent predisposing cause of relapses. The larger the cord, the greater the diameter of the ring must be; and the compressibility of its veins would readily allow the omentum or bowel to enter the ring, during the maximum of intra-abdominal pressure.

5. The condition assumed by the muscular aponeuroses deserves careful attention. Some of the changes consequent to the constant pressure for years upon the structures external to the inguinal canal and hernia are, that they first of all assume a tumor-like appearance, which may come and go as the hernial contents protrude or recede. Within a variable time the bulging becomes permanent; and should these parts be now examined, the muscular and fibrous portions are found to be thin and overstretched; the muscular tissue more or less fibrous and atrophied, the fibrous elements less resisting; the cremasteric muscle appears like fibrous bands; the external oblique, internal oblique and transversalis muscles adherent together, making it difficult and sometimes impossible to differentiate one from the other, or, indeed, from the sac beneath them with which they also form a strong union; the conjoined tendon is forced inward and backward, while Poupart's ligament is pushed down and outward, and the pillars are found wide apart.

It is interesting to notice the alteration in the surrounding blood vessels. The deep epigastric artery may be almost obliterated, while the accompanying veins and the superficial vessels are enlarged and more numerous than is normal.

All of the above mentioned changes cannot be rectified by any operative procedure; but the abdominal aponeurotic walls can be thickened by overlapping and firmly securing them beneath the cord, while the conjoined tendon and internal pillar on the one hand, and Poupart's ligament and the external pillar on the other, can be approximated. While these different conditions and alterations are fresh in our minds, let us briefly associate with them the shortcomings of the principal operations, that have hitherto found most favor with the profession, in endeavoring to effect a radical cura.

I. CZERNY'S OPERATION, or BANK'S, as it is called in Great Britain, consists in removing the

sac below a ligature, and of suturing the pillars together.

OBJECTIONS.

1. The sac is removed.
2. The infundibuliform process is not obliterated.
3. The tensity of the transversalis fascia is not restored.
4. The enlarged internal ring is not materially lessened.
5. An enlarged spermatic cord is not reduced in size.
6. The abdominal aponeuroses cannot be as firmly secured in front of the cord, without danger, as behind it.
7. Relapses are too frequent.

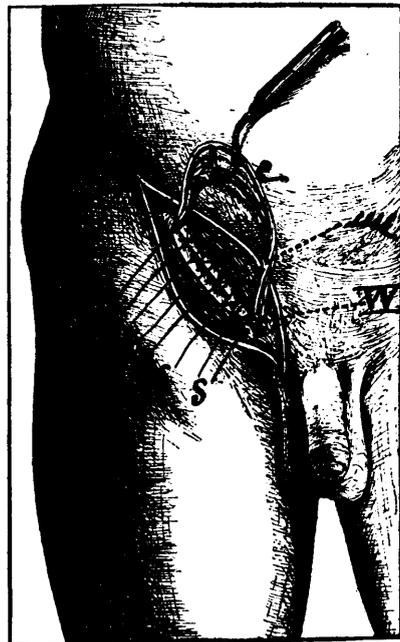


PLATE II.

S.—Sutures closing the canal.
C.—Cord.
W.—Veins excised.
SSSS.—Sutures in transversalis fascia tied.

II. MACEWEN'S OPERATION in selected, and perhaps in the majority of cases, is probably the best herniotomy for radical cure yet produced. In it the sac is utilized as a tampon to obliterate the infundibuliform process, and the canal is closed by bringing the external structures over the conjoined tendon and overlapping it, thus restoring its valve-like form. This is accomplished by means of one mattress suture of extra

stout chromic catgut. I cannot understand how surgeons can consider it a complicated operation, and I am sure it is not extremely difficult to perform.

OBJECTIONS.

1. A new ring may not be formed by the suture closing the canal, and the tensity of the transversalis fascia is not completely restored.

2. An hypertrophied spermatic cord is not reduced in size.

3. The suture, closing the canal, passes over the spermatic cord, which, if tied too tightly, endangers the vitality of the testicle, and it cannot be as firmly secured as when the cord is transplanted.

III. MCBURNNEY'S OPERATION (*Medical Record*, New York, 1889, pp. 35 and 312) is a reproduction of the idea conceived and carried into practice by M. Theophile Anger in 1887 (*Bul. Soc. Chir.*, 1887, p. 664), and also by Schede, of Hamburg. The neck of the sac is ligatured as high up as possible, and the sac cut off. The edges of the

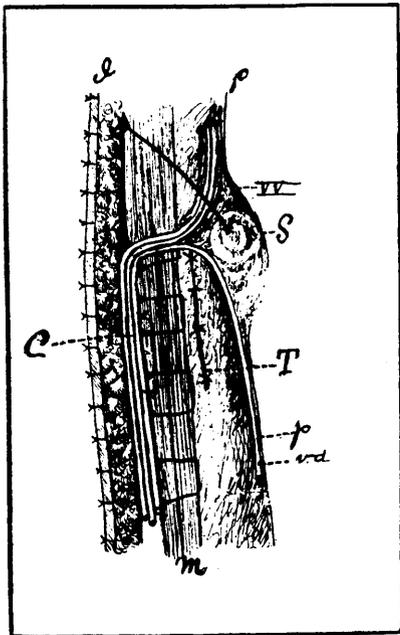


PLATE III.

- C.—Cord in its new bed.
 I.—Integument and subcutaneous tissues.
 M.—Muscular wall sutured.
 P.—Peritoneum.
 VV.—Veins excised.
 S.—Sac folded upon itself and showing the puckering suture.
 T.—Transversalis fascia sutured.
 VD.—Vas deferens.

skin are sewed to the deep fascia, the wound packed with gauze, and allowed to close by granulation tissue formation.

OBJECTIONS.

1. The sac is sacrificed.

2. Scar tissue weakens, the older it gets. We are well aware of the changes that time works in all cicatricial tissues, rendering them thinner and softer. Lucas Championniere and M. M. Terrier (*Bul. Soc. Chir.*, 1887, p. 680) are decidedly of the opinion, as are many others, that scars resulting from granulation-tissue are not preferable to those obtained from healing by first intention, with which we agree.

3. The tensity of the transversalis fascia is not restored.

4. The pathological internal ring is not lessened in size.

5. The cord is not reduced when abnormally large.

6. Relapses are becoming more and more frequent.

IV. KOCHER'S OPERATION consists in dissecting out the sac, dragging it through a small incision in the aponeurosis of the external oblique, twisting it vigorously upon itself, strongly pulling it down, and laying it over the surface of the external oblique muscle in the inguinal canal, where it is firmly secured with sutures.

OBJECTIONS.

1. See objections 2, 3, 4, 5 and 6, to Czerny's operation, which stand equally good here.

2. It is not suitable to strangulated, incarcerated, irreducible or congenital hernia. The class of cases which Kocher selects for his operation is inferred from his own words, as follows: "The structures of the spermatic cord are now separated, in which by holding them toward the light, the border of a very thin hernial sac can be recognized." (*Annals of Surgery*, Vol. XVI., No. 6, p. 524.)

3. The results are not the most promising, and in this connection let me again quote from the same article, p. 505, as follows: "When we assume that about one-fifth of our patients are subjected to a second operation for recurrence," etc. Twenty per cent. of relapses does not speak very highly for an operation which does not in-

clude the most difficult cases, and should be discarded on Kocher's own statistics.

On the same page he says : "The chief thing is that we cure four-fifths of the patients, those who remain radically healed, with a minimum loss of time and sacrifice of every sort." (An average of seven and a half days in bed.)

V. BASSINI'S OPERATION has many admirers in America. It consists in ligaturing and cutting off the sac ; raising the cord and suturing the border of the rectus, internal oblique, transversalis and the transversalis fascia to Poupart's ligament, behind the cord. The aponeurosis of the external oblique is sewed in front of the cord.

OBJECTIONS.

1. The sac is cut off.
2. The triangular depression, where the vas deferens and vessels meet to form the spermatic cord, is left unguarded except by the elastic peritoneum.
3. Supernumerary veins are not removed from the cord, should they exist.
4. I think it an objection that all the aponeurotic structures are not sewed behind the cord.

VI. HALSTEAD'S OPERATION differs so much from Bassini's that it may be called quite a different and an original operation. It is a very complete and carefully studied out laparo-herniotomy, and has added something new to the means which aid in securing a radical cure, viz., the removal of the superfluous veins from an hypertrophied cord. The skin incision is made in the usual way, but extends upward quite far. "The aponeurosis of the external oblique muscle, the internal oblique and transversalis muscle and the transversalis fascia are cut through from the external abdominal ring to a point about 2 cm. above and external to the internal abdominal ring. The vas deferens and the blood vessels of the cord are isolated. All but one or two of the veins of the cord are excised." (Halsted.)

The sac is cut away, the peritoneum sutured, and then two other rows of sutures bring the severed structures together. The cord is left subcutaneous.

OBJECTIONS.

1. The sac is not utilized.
2. The six or eight mattress sutures are inserted

in such a manner that, when tied, an eversion is effected which leaves, internally, a certain amount of concavity along the whole line of the incision.

3. The V-shaped depression where the vas deferens and vessels come together is not strengthened.

4. There is too much cutting of important structures situated above the internal abdominal ring. It is practically a laparotomy.

In Dr. Halsted's paper (*Bulletin Johns Hopkins*, No. 29, March, 1893) it is stated that "the communication between the sac and the abdominal cavity is sometimes large enough to admit one's hand."

The severance of the three abdominal muscles and deep fascia above the internal abdominal ring is not necessary. We know that simple abdominal section in the hands of the best operators is, in a certain proportion of cases, followed by rupture. Every structure cut which strengthened the abdominal wall has to be sewed. The more extensive the cutting, the more numerous the stitches of necessity must be. In every stitch there is a danger of its being insecure or septic.

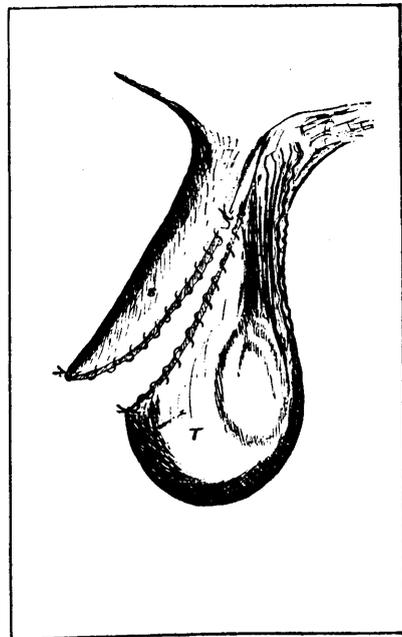


PLATE IV.

DEALING WITH THE SAC IN CONGENITAL HERNIA.

S.—Sac formed from upper half of the tunica vaginalis testis.
T.—New tunica vaginalis testis.

It is, therefore, clear that this operation introduces additional predisposing causes of relapses.

From the trend of the foregoing remarks on, and objections to, the operations mentioned, the character of the combination operation advocated by myself may have already been anticipated by you. I shall now endeavor to describe it.

OPERATION.

The incision, three or four inches in length, extends parallel to Poupart's ligament over the inguinal canal to the pubic spine. All the structures in front of the inguinal canal, from the internal to the external abdominal rings, are rapidly divided and the blood-vessels secured without staining the tissues. The sac is dissected out, almost invariably opened for inspection, and its neck loosened from its deep attachments with the finger (Macewen). It is then several times transfixed in a proximal direction with a stitch that has been firmly secured to the distal end, so that, when the proximal end is pulled upon, the sac is thrown into folds like a curtain. Finally the needle carrying this thread is pierced through the abdominal wall from within outward along the inserted finger between the peritoneum and the transversalis fascia, and made to emerge subcutaneously at the upper angle of the wound, about an inch above the internal abdominal ring (Macewen), Plate 1. Let it be borne in mind that the needle does not penetrate into the peritoneal cavity. Before fastening the sac in situ, it is best to raise the spermatic cord, and, if necessary, remove the supernumerary veins (Halsted); and even when this is not necessary, it is well to make a circular incision through the fascia propria of the cord, and invert it at the new internal ring. The suture which folds the sac is now pulled tightly, fastened to the external oblique muscle, and the sac adjusted in its proper position. It will be noticed when the cord is raised that the tampon occupies a position at its origin where the vas deferens and vessels meet, and, if of good size, more than fills the infundibuliform process; but when the sac is ligatured or sewed across and cut off, this process is left empty. The next step is the suturing of the transversalis fascia from close to the pubic bone (when necessary) to the root of the cord (Marcy), with three or four of my inversion sutures. When the deep ring is not much enlarged, and the trans-

versalis fascia but slightly relaxed, a couple of stitches may be all that is required. The last one completing the formation of the new internal abdominal ring, is the most important, just leaving space enough for the cord, and no more. The inversion suture is inserted by piercing the deep fascia parallel to Poupart's ligament in two places from without inward, and from within outward, with the first bite of the needle. The needle is drawn it through, and the thread is carried across to the border of the conjoined tendon, where a similar bite is taken directly opposite (Plate 1).

When all are passed and tied, they restore the tensity of the transversalis fascia, at the same time invert the tissues, and cause a convexity on the internal surface. In passing these stitches, great care is exercised not to include the peritoneum. In some cases, the fascia and peritoneum may be adhered together; then it is wise to place the patient in the extreme Trendelenburg position, and always use a fully curved needle without a cutting edge. It is only necessary to suture that portion of the transversalis fascia that has become relaxed. The approximation of the muscular aponeuroses of the abdominal wall is done with three or four mattress sutures from below upward, in such a manner as to bring the external and lower structures, Poupart's ligament, fibres of external oblique, internal oblique and transversalis muscles over and in front of the internal and upper structures—conjoined tendon (Macewen), and external oblique and all beneath the cord (Halsted). (Plate 11).

The first mattress suture is made to penetrate the conjoined tendon and internal pillar in two places with one turn of the needle, from without inward near their lower border, and again from within outward. The two ends of the thread are now passed through Poupart's ligament and the internal pillar from within outward, about half an inch apart. In passing the rest of the sutures exactly in a similar manner, the practical part to remember is, that all the structures from the transversalis fascia to the subcutaneous fat are included; and that they are all tied beneath the cord. When the conjoined tendon is thin and delicate, the border of the sheath of the rectus muscle must be grasped by those sutures. Should the overlapping be considerable, it may be and often is necessary to put a few retention sutures

along the edge of the overlapping structures. To complete the operation, the cord is laid on the external surface of the external oblique muscle, and the skin sutured over it with a continuous buried suture (Halsted), or in the ordinary manner.

I have only operated after this method for about a year, and sufficient time has not elapsed to speak of results; but the combination operation (as I call it) should commend itself, in that it is based on anatomical and pathological facts, and upon the results of other operations. It utilizes the sac for a purpose; tightens up the transversalis fascia, and makes a new ring for good reasons; it reduces the size of the spermatic cord when it is redundant; it makes the best use of the aponeuroses to thicken and strengthen the abdominal parietes; and it is suitable to every degree and form of oblique inguinal hernia, from bubonocoele to a complete scrotal, even incarcerated or strangulated.

Should the hernia be congenital, the enlarged tunica vaginalis testis is divided into two parts obliquely from below upward to a point where separation of the serous membrane from the cord is most easily effected, and each half closed by itself—the one forms a neat tunic for the testicle, and the other half a sac to be used as a tampon (Plate IV). The operation is now proceeded with as already described.

Plate III. schematically represents a longitudinal section of the completed operation.

THE RADICAL CURE OF FEMORAL HERNIA.

The radical cure of femoral hernia has not engrossed the attention of surgeons to the same extent as have operations for the inguinal variety. This may be partly because the material is not so abundant, and owing to the belief of the operation being more difficult to perform. Even our most recent text-book, "An American Text-Book of Surgery," takes no notice of the radical cure of femoral hernia.

The crural rupture is much more liable to become strangulated than is the inguinal. It is not uncommon to find it

"strangulated at the time of its first descent," which fact alone calls for more consideration of this affliction.

Sir Astley Cooper dissected out the sac and closed the femoral ring by sutures. Mitchell Banks places a ligature around the neck of the sac and then cuts it away, but no attempt is made to close the canal. Ball and Heuston twisted the sac, ligated its neck and cut it away, and closed the femoral canal with sutures. Barker removes the sac after ligating the neck. The stump of the sac is pushed under the femoral arch and the canal closed with sutures which grasp the pubic portion of the fascia lata and Poupart's ligament. Marcy cuts the sac off below a ligature, and closes the canal by sutures of kangaroo tendon. McBurney used the open method: the sac ligated, cut away, and the wound packed with iodoform gauze. Macewen, of Glasgow, used his unique method, which has not yet been surpassed, especially with the slight modifications recommended by Cushing, of Boston, and others who have followed in his footsteps. The sac is saved, folded upon itself with a puckering suture pushed within the

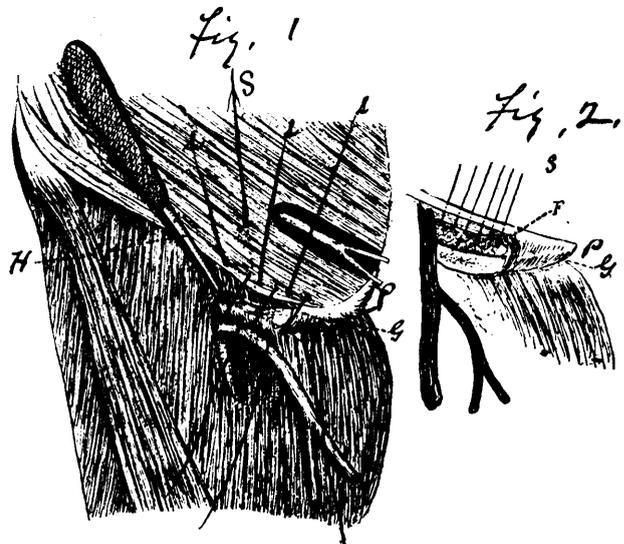


PLATE V.

FIG. 1.

H.—Blunt Hook raising the falciform ligament.
 S.—Suture holding the puckered sac in situ.
 SSS.—Sutures inserted into the pectineal fascia and Poupart's ligament.
 P.—Pubic bone.
 G.—Gimbernet's ligament.

FIG. 2.

F.—Periosteal flap.
 S.—Sutures uniting F with Poupart's ligament.

abdomen and fastened there so as to form a prominence on the internal aspect of the peritoneal cavity, which in the most efficient manner possible plugs the femoral canal from within outward with the most desirable material.

Macewen completed the operation by stitching the falciform process to Gimbernat's ligament, thus restoring the valve-like condition of these parts in their natural relationship.

Dr. Cushing closed the femoral ring with a quilted suture, fastening the pubic portion of the fascia lata, covering the pectinous muscle, to Poupart's ligament, before closing the saphenous opening after Macewen's method. This, to my mind, counteracts all the pathological conditions presented in the vast majority of femoral herniæ, and a radical cure is effected.

I close the canal with three inversion sutures (Plate V, Fig. 1), seizing hold of the pubic fascia close to the bone, and then grasping the ligament of Poupart from above downward, which, when tied, recede the falciform process behind them into the canal on a level with the deep crural arch. In this position, the external structures are closed upon the boss within. When the sac is small and slender, and Poupart's ligament cannot be brought down sufficiently close to the pectineal fascia to effectually obliterate the femoral canal, there need be no hesitation in raising a periosteal flap from the pubic bone, sewing it with quilt sutures to the deep crural arch (Plate V, Fig. 2), and then fasten the falciform process beneath it, as already described. I have raised the periosteal covering only in one case, but it admirably suited it, and a most satisfactory result was obtained.

Dr. W. Watson Cheyne (*Lancet*, London, 1892, p. 1039) described a new method for operating for femoral hernia. The sac was ligatured and cut off, and a flap from the pectinous muscle (taking its whole thickness) was raised and sutured into the femoral canal as an external tampon. It is hard to see the philosophy of cutting off a sac which can be readily, safely and efficiently utilized as a plug, being already fibrous tissue, and raising a mass of muscular tissue which in time becomes converted into fibrous material. Should the sac be too small, and the canal large, no doubt Cheyne's flap would be a great help to prevent relapses.

Dr. Josef Fabricius (*Centralblatt für Chirurgie*,

Feb. 10, 1894) recommends to ligate the sac and cut it off; freely expose the crural canal by division of the superficial layer of deep fascia and removal of loose cellular tissue; the internal attachment of Poupart's ligament is divided, thus relaxing it, and it is then stitched to the pectineal fascia, the origin of the pectineal muscle, and to the periosteum of the horizontal ramus of the pubes. The first stitch is applied next to the femoral vessels, which have been held by a blunt hook toward the ileo-pectineal eminence, and this stitch prevents them from returning to their normal position. The author also recommends to stitch the superficial layer of deep fascia to the pectineal fascia along the femoral vein. The objections to this operation are (1) the removal of the sac; (2) the division of Poupart's ligament, and (3) the permanent displacement of the vessels (if such is possible), which would have a tendency to produce a varicocele of the femoral vein.

Bassini (*Arch. für Klin. Chir.*, Bd. 47) has given his method of operating on femoral hernia. It consists in removing the sac and then using two rows of sutures, one fastening Poupart's ligament to the pectineal fascia to close the femoral canal, and the other securing the falciform ligament to the pectineal fascia.

Let me recapitulate the steps of the operative procedure I recommend for the radical cure of femoral hernia.

I. The skin incision is made parallel to Poupart's ligament, and half an inch above it. This allows one to reach the neck of the hernia with ease and accuracy; the scar will be out of reach of the pressure or friction of the thigh, and it allows of an examination of the inguinal canal and rings, which is important.

II. The sac is dissected from the surrounding structures and opened, unless by feeling you are certain that it is empty. As a rule it is better to open the sac, and should omentum be found, it is tied with interlocking ligatures and cut away. The raw stump left should be covered with peritoneum before returning it into the abdomen.

III. The sac is now folded upon itself and fastened within the opening of the crural canal (Macewen). The whole sac is better than the stump of one, or no sac at all. It should not be ligatured round its neck and then retained, as is the practice of some surgeons, because its nutri-

tion is directly interfered with, which may cause it to slough off; or, should it live by imbibition from the surrounding structures, as it usually does, degenerative changes are liable to follow.

IV. When the sac is sufficiently large to close the internal opening of the canal, suturing of the pubic fascia to Poupart's ligament, and placing the falciform process into the external opening of the canal, by means of the inversion sutures of strong chromic catgut of silk, is quite enough.

V. When the sac is small, the hernial opening large, and Poupart's ligament cannot with ease be approximated to the pectineal fascia, a periosteal flap may be utilized, or a flap of the pectineal fascia and muscle can be raised and stitched to form a buttress instead, as practiced by Cheyne.

THE PHILOSOPHY OF PELVIC AND ABDOMINAL SURGERY.*

BY DR. JOSEPH PRICE, PHILADELPHIA, PA.

Shakespeare makes Hamlet say: "There are more things in heaven and earth, Horatio, than are dreamt of in your philosophy."

Twenty years ago this prophetic reply might have been aptly made to the censurers and unkindly critics of pelvic surgery, and even of abdominal operations. Within the sacred pale of the abdominal cavity, none but the post-mortem operator was permitted to go without censure. The elect and specially favored dispenser of doubtful drugs lulled his patient to her long repose with the never-failing, ever-present opium, and the patient, "half in love with easeful death, called her sweet names," and blessed the dispenser of this last comfort, who received it with all the unction of a faithful servant who stood by her to the last. There are still some survivals of this same sort, unfortunately, not however, according to the Darwinian theory.

The rise and progress of abdominal and pelvic surgery, must be for all time a study and a lesson as to the mutability and uncertainty of all matters in which progress, innovation, and tradition are concerned.

All progress comes of abandonment or modification of a hitherto fixed idea. Honest men work and act from conviction. The man who stands must not contradict the man that runs, or the

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man that walks. The sleeper must not confute the worker, nor the man comatose, by heredity, the prophetic dreamer.

The man that learns nothing new, and the man who forgets nothing old, is never in the way of progress. Ideas grow by experience, unless the experience is one that dwarfs and cripples intelligence, through fear or timidity, or inefficiency. Herein lies the difficulty of arriving at correct data, as to what should be considered progressive and what detrimental innovation and doubtful advance. Men who have ideas walk side by side with those who think they have.

In the masquerade, the wise man is often dressed as a fool, and the clown puts on the wisdom of the Seven Sages. With many men, the "original" idea is a besetting sin. An old couplet puts it thus:—

Whenever yet was seen a mother
Who'd give her booby for another?

In medicine, surgery, and especially in gynæcology, how often do we see the idea maintained against reason, experience and common sense, all, and only for the sake of "originality." In the mechanical sciences practicability is paramount. An idea to be acceptable, or merit serious consideration, must be a working idea. The same rule should apply in surgery, which is the mechanics of medicine. An experience in navigation not founded on compass and chart, would meet but the derision of all scientific navigators. Isolated cases in no branch of medicine can be considered a universal experience. In this direction lies the fault of much of the medical literature of to-day. Single-case surgeons rush into print, and lay down dogmatic axioms as to the operative procedures of a class of cases of which they are totally ignorant, with the result that many are misled into believing them an absolute authority, from a wide experience, and a consequent calamity to the learner, and many patients certainly, and incidentally to older workers who yield their sense and experience to a misleading Will-o'-the-Wisp.

The result of all this is a far-reaching evil. Rashness steps out beyond the confines of the real conservatism of surgery, the conservation of human life; ignorance opposes all progress, and trusts to the conserving powers of nature, forgetting that nature often goes astray, or is attacked and routed, and that it is our efforts that set her right; timid-

ity and inefficiency stop short of legitimate bounds, cry for help, and failing, cry out, "Peccavi—let us stop." Thus it is we see men constantly reversing their opinions and shifting ground, and trying something new, simply because they have failed in the old, and not because the old is a failure. If we look over the field of gynæcology, with which we have now especially to deal, we shall see that the continual shifting and varying of opinion and method, is the characteristic of these two classes of workers, those who first rashly dogmatized, and those who, in spite of some experience, have failed to reach results above criticism. It is obvious that we must follow the teachings of such as these afar off, and utilize their dogmas by avoiding them. Do not for a moment consider that in this category are to be placed the pioneer workers of the field.

Their efforts are above criticism. Their labors have made possible our advances, and the rich harvest of their experience is ours by inheritance, not at least often by genius. Their wisdom has become our knowledge.

"Wisdom is humble that she knows no more.
Knowledge is proud that she learned so much."

In dealing with these matters, let us be glad we are able to learn, humble that we cannot know it all, and proud only to be worthy successors of those brave pioneers who have preceded us.

Unfortunately for the progress of gynæcology, scientific emulation has too often been replaced by personal conflict, so that men, who, had they gone on in the ranks, might have added much to the sum total of advancement, became only obstructionists, and their influence, if not totally lost, was in an extreme degree negated.

Personal antagonism as heretofore existing, has its counterpart at present in an entirely unnecessary conflict as to the pathology of pelvic and abdominal disease. Pelvic cellulitis, the universal pelvic affection of the ante-bellum days, is once more being resurrected and made to play its part as a factor in pelvic pathology. True it is that it is oftenest brought in now-a-days as a puerperal affection, but scarcely so frankly as one might wish, and often with a careless disregard of the fact that its existence in isolated puerperal cases has long ago been demonstrated, and that in pelvic disease it has been argued and demonstrated out of the field. Let it be remembered that in

order to prove the existence of any given trouble, no half-way proof is to be accepted as final, and that we are not to stop when a point is apparently conclusive, unless it is just as evident that nothing else can put a different phase on our supposed fact.

Puerperal cellulitis, apart from disease of the tubes and ovaries, concomitant with the presence of pus, is sufficiently rare to make us question the rather too frequent finding of it altogether confined to a very few observers. Operators of the widest experience have discovered it almost not at all. The pathology broadly considered, must point to, and demonstrate distinct lesions in, the pelvic viscera, in order to justify their removal. Pathology in a measure, after it has demonstrated the presence of a lesion, together with its probable complications, ought to put us on the track of the most probably logical line of attacking a given lesion. But at the present time there is an unfortunate clash of methods in the attack of pelvic disease. There is a tendency to assume various points as proven, which, in the light of the experience of skilful operators, whose success is not questioned, can at best be only extremely doubtful. Such for instance is the assumption that in pelvic disease, in most cases the entire ablation of the uterus, together with the appendages, is indicated.

The arguments by which such conclusions are reached, certainly do not come from anything approaching a majority of cases hitherto operated on. That here and there, or even in a considerable number of cases, there is after-disturbance consequent upon pelvic operations, all the nervous phenomena of a pre-systolic menopause does not prove or even suggest the fact that uterine disease has co-existed with the pelvic disorder. The facts are distinctly on the other side, for it is well known that operations for pus in the tubes and ovarian abscess, have given the most satisfactory results, and have yielded probably by far the greater amount of permanent cures. Notwithstanding all this, in certain quarters, we are hearing the operation of morcellation heralded as the coming procedure, of its great safety and of the brilliant results in the hands of certain operators. The reasons for all this cannot be obvious to the thoughtful surgeon, when we consider the arguments for vaginal attack upon pelvic disease, as suggested by this operation, are

just those on account of which it was tried and found wanting, and that certain explanations are given for its success, when these same factors were condemned, in the abdominal operation as unnecessary. In this line especially is to be considered drainage. One operator gravely gives the perfect drainage of the vaginal operation as perhaps the chief factor of its success. Can we overlook in this light how strenuously many of us have been opposed, in our support of drainage as a necessary step in such pelvic work? Then, again, while arguing the vaginal method as the perfect procedure, it is seriously interpolated, that it is necessary to search carefully for multiple abscesses. "If left behind they will cause further trouble. To be sure it is possible and quite probable that they will open spontaneously in a day or two, but it is not safe to count on this event."

By the abdominal method we find these pockets without tedious search and we knew we are not leaving them, and we have long ago learned, and knew it without learning it, that it is unsafe, nay, fatal, to ideal results to leave them.

Again, we are directed in this operation, that when persistent, careful efforts have been made without avail to remove the appendages, "they must be abandoned," and nature allowed to complete the cure. And this "in a supposed ideal operation" to the complete removal of the uterus, granting for the sake of argument that, as these extremists claim, it is always the starting-point of pelvic disease.

Consider the following: "Very seldom does the fundus of the uterus have to be abandoned. The final result, however, is said to be quite as good, provided the stump does not offer an obstruction to the flow of pus, if there should be any. Then, again, it is claimed in many of these operations that they were inoperable cases, by the abdominal method. By whose dictum, pray? Shall we take as final the opinion of those, whose explanation of a favorite operation shows that they fear the essentials of a more surgically complete one?"

Enough has been noted to show that, surgically considered, the vaginal resurrection in the way of surgical attack on the disc-viscera pelvis, cannot be considered as an ideal operation. It is only the revival of an abandoned procedure, for the

removal of the annexa, and to it is added the removal of the uterus itself. Remember, we are not here considering simple vaginal hysterectomy.

This as an operation has its distinct field. From an experience which covers a great many cases of all kinds, embracing adhesions of all sorts and degrees, having had to deal with them both vaginally and from above; from an extensive experience, in dealing with abscesses, of all the pelvic viscera, single, multiple and diffuse, both in the tubes and without them, I have no hesitancy in expressing the opinion, that the time is not far distant when the very sanguine expressions of opinion concerning this much vaunted ideal operation, which is not ideal at all, will be much modified.

Over-enthusiasm cannot long override solid reason.

Adhesions that have a history of years in pelvic inflammation, involving omentum, intestines, large and small tubes and ovaries, with constriction, and, often, necrotic spots in the bowel, cannot fade away as if by magic, simply as a result of vaginal attack. We know that often adhesions of intestine and omentum constitute the chief factors of a woman's suffering. To leave these because we dread to enter the peritoneal cavity, is simply to confess we cannot enter it to our satisfaction. Who would seriously think of abandoning an incarcerated hernia, through fear of entering the abdomen? and yet this is the identical logic of this much vaunted "ideal operation," that we do not enter the abdomen; but nevertheless, the adhesions melt away. They may do so in France, and other foreign countries; I have not found it so at home. It is not easy to understand how any considerable number of operators, familiar with all the lesions commonly found in pelvic work, can lightly pass most of them by, trusting only to blind fate and chance. To have once seen a completed operation, a perfect abdominal toilet, is to increase the mystery of its abandonment, for a procedure necessarily so inexact as the vaginal method of dealing with extensive pelvic inflammations.

It is not sufficient to criticize any one method or to uphold it in order to lay claim to perfection of method and results. The field is too wide dogmatically to lay down any one procedure and claim for it as all-embracing, never-failing and as a posi-

tive cure-all. It is well in the light of claims like these to take a bird's-eye view of many of the steps and fads that have been supposed to render all this branch of surgery safe and never-failing. Only a few years ago we were urged to put all our patients in the Trendelenburg position, if we wished to have a specific against pus infection, hæmorrhage, unnecessary manipulation, superfluous ligatures and so on *ad infinitum*. This position, you all will remember, was invented—we must not forget to dwell on the word *invent*—in order to render supra-pubic lithotomy easy and safe. What its merits are for this special operation I leave it for each one to determine for himself. What has been claimed for it in other respects will be found to have had very little influence either on the success or failure of any great number of operations. Certain it is that any man who could not do pelvic surgery without it can not do pelvic surgery with it, and the enthusiasts who found in it the legend, "All pelvic surgery made safe and easy," have found themselves bitterly disappointed, and now may find a new satisfaction in abandoning a German panacea for the French placebo.

What has been said of claims for methods may be also affirmed of labor saving complexities in the way of instruments. Instruments that have been invented in order to facilitate one single step of an operation are in the road. They are thrown out into the surgical world as nature grows weeds, prolifically, not usefully. They usually take their origin from an incomplete understanding of the many nice steps and infinite detail embodied in a difficult pelvic operation. The presence of an instrument on the operation table for each of these would convert it into a clinic for the exhibition of the surgical instrument maker's art. We remember something of how this looked if we recall the multitudinous array and paraphernalia on clinic days of our student life.

Now we must work on different lines. Simplicity, not complexity, is the keynote of success. Neither German bake-ovens, innumerable germicides, nor dress suit operations, elaborate operating rooms, connected with a sewer, as they all are, make perfect surgery. Antiseptics have their place, but they do not insure success in surgery. It is just as possible to be clean without them as it is to be dirty with them, and the technique that does not trust in and consider normal cleanliness,

but leaves all to antiseptics, must always be a faulty one and a dangerous one.

Hot water and soap is at the bottom of all really refined technique, not only at the time of operation but as a constant habit of life. We cannot be spasmodically clean, any more than we can be spasmodically pious. The spasmodically pious man must needs make extreme effort to be good; it is the same with cleanliness. For success in this line of work efforts are to be made from start to finish to move directly to a given end. Each step is to be taken up orderly and systematically, with no capricious abandonment of one plan for another. The campaign must be planned previous to the active warfare, or the result will be a Chinese rout.

What I consider the essentials of technique will next be presented for your consideration, summarized in a previous paper.

Here, as in all other operations, the less the paraphernalia and complexity, the less the danger of annoying delays and impediments to speedy and careful, uninterrupted work.

The incision should be as short as is consistent with the removal of the diseased part. This is of importance also at the close of the operation. The smaller the incision the less we have to deal with in closing. If the tumor is irreducible, the incision must be longer than otherwise. Adhesions are to be dealt with as they are found, and not passed by. Ligation of bleeding points must be carefully attended to. All points of bleeding do not necessarily require a ligature. The hæmostatic forceps very readily controls many of these, especially in the incision. Too numerous ligatures introduce an irritating element into the surgery of the pelvis and abdomen whose evil is far reaching and should be avoided. All pathological conditions should be removed as they are discovered. Adhesions freed, *débris* consequent upon these removed, and the really diseased organs carefully separated and tied off. Leaking vessels must be controlled, and must be primarily handled so as excite as little hæmorrhage as possible.

This is accomplished by breaking the adhesions down with the cushioned end of the finger, using the nail practically not at all, and the scissors or knife never, unless where it is absolutely necessary to tie. After adhesions are loosened and ligatures placed, the toilet is to be looked to. Drainage is

the most essential feature, and this is begun by flooding the abdomen. The abdominal douche is as necessary for successful surgery in the peritoneal cavity as is soap for common cleanliness. The sneerers at drainage all with common consent acknowledge the efficiency of flooding out the abdomen to clear it of *débris*, pus, clots and the like. Not only does it do this but it is a powerful stimulant in shock, and enables many a successful recovery to be made, where otherwise we would lose our patient. Now drainage—I mean glass drainage, not a gauze masquerade—simply continues the good work initiated by abdominal flooding. It permits the escape of lymph, the smaller clots, the serum from the irritated surfaces, and conduces to bringing the peritoneum into a more natural condition. Gauze simply extracts fluid as such, and does not permit of the eliminations of anything else whatever. It is interesting to note in this connection that those operators who so bitterly opposed drainage some little time ago, now commonly pack the pelvis full of their so-called gauze, drain from vagina to and through abdominal incision, and with the same consistency yet violently oppose supravaginal extraperitoneal hysterectomy, which when perfectly done does away with all intraperitoneal tinkering, and closes without even leaving a sinus.

One thing an operator has to learn. He is the head, judicial, legislative and operative in all that concerns his patient. He is bound to see that all is in working order before he begins work. He is to know that all around him are trustworthy and efficient. If he is in doubt about this he has no right to begin work.

If he begins work without skilled assistance, he must know himself capable of going through it without assistance. In the event of failure, he has no right to bulldoze those around him or lament their inefficiency. Subjective fuss combined with objective feathers reduces surgery to a farce, and the operation often to a tragedy.

ELECTRICAL TREATMENT OF RED NOSES.—Dr. Helling says that a red nose is due to contraction of the arterioles and dilatation of the veinlets. He claims to have cured a number of cases by the application of a continuous current of moderate intensity for five to ten minutes daily.

Selected Articles.

TUMOR ALBUS OF THE KNEE-JOINT.

The objects and limitations of this paper are to present a summary of the points to be observed in the treatment of tumor albus of the knee-joint, and especially to call attention to the fact that most excellent results are obtained by the use of conservative measures.

I will classify the treatment under the two headings of *constitutional* and *local* measures, and the *local* under the sub-divisions of *conservative* and *operative* treatment.

I. CONSTITUTIONAL TREATMENT.—In few, if any, local diseases can we afford to overlook the general health of the patient. Especially is this true of tubercular inflammation of the joints, where mal-assimilation or any impairment of general health is directly registered by an unfavorable progress of the disease. Under this head I will merely call your attention to the advantages of hygienic surroundings, good food, sunlight, and moderate exercise, with the precaution that the joint is fixed and protected against jar and contusion.

The general remedial agents that we are all in the habit of using as systemic tonics are iron, arsenic and strychnia, cod liver oil, iodine and mercury. Guaiacol has come to the front in more recent years as being especially curative in tubercular joints. Max Schuller reports successful experiments with this drug upon animals, made by himself in 1878. Dr. Griffith, of Kansas City, reports to the American Orthopædic Association the advantageous use of this drug in tumor albus, and that he proposes to continue its use. Senn also reports favorably on the use of this drug.

II. LOCAL TREATMENT—(a) *Conservative*. (b) *Operative*.

(a) The *conservative measures* to be carried out in the treatment of this affection are :

1. Counter-irritation and local applications,
2. Fixation,
3. Protection,
4. Extension,
5. Rest,
6. Correction of deformity.

1. *Counter-irritants* are pretty nearly universally denounced, though I venture to say that one-half of the cases of white swelling in the hands of the general practitioner are painted with iodine at some time or other. Heat and cold are at times useful in modifying the circulation and relieving pain. I have seen old knee cases of one, two or three years' standing, at the time of an exacerbation when the joint was hot, red and painful, be almost entirely relieved after several hours' application of a hot fomentation.

2. *Fixation* may be accomplished by almost any one of the various designs of posterior splints, many of which are made of felt, leather, steel, wood, etc., and are adjusted by the use of bandages, straps and buckles. Plaster or silicate bandages make good splints, provided the bandages are carried well up to the ankle and are applied snugly to the limb. This form of splint can be cut down in front and made to lace, in which case it can be removed at any time, the knee inspected and the splint adjusted.

3. *Protection*.—In the treatment of diseases of the joints in the lower extremities, we may take a hint from observations of nature as suggested by Dr. Judson, of New York, who, on examining the annual report of two New York orthopædic hospitals, called attention to the fact that disease of the joints of the upper extremities is relatively quite rare, thus indicating that while treating the diseased lower limb it should be made pendant like the upper; and further, that the limb in bearing the weight of the body is subject to blows and concussion in the act of walking. The limb can be made a pendant member, and thus protected by building up the shoe on the opposite side, and by the use of axillary crutches. Let me here say that I find it the invariable practice of instrument makers in Cleveland to build up the shoe on the diseased side, both in hip disease and white swelling, thus making it impossible for the patient to prevent more or less concussion to the joint.

Small children, we find by experience, do not make good use of crutches, but throw them to one side and hobble away on the diseased limb. It is, therefore, essential in treating children having this affection to furnish them a crutch from which they cannot escape. This is obtained by the use of perineal or ischiatic crutches. It has been my practice to use that form of ischiatic crutch known as the Thomas knee splint. This brace consists of an oval foot-piece supporting two uprights, which when fitted to the patient passes parallel and close to the inner and outer surface of the limb, the inner bar passing as high as to the perineum, the outer bar to above the head of the femur. The two upper extremities of these bars are welded to an irregular ovoid ring which obliquely encircles the thigh. When finished, this upper ring is padded with felting and is covered with leather, thus being fitted to support the weight of the body. The brace is made long enough to pass two to four inches below the heel, the other shoe being built up this same amount. The limb is held fixed in the brace by buckles and straps, and in walking the brace is lifted and kept against the perineum by means of a suspender fastened to buckles attached to the upper ring.

5. *Extension* and protection may be furnished by the use of a walking brace after the pattern

of the Sayre hip splint; or by the use of adhesive plasters attached above the leg, and below to buckles secured near the bottom of the Thomas knee brace. For my own part I cannot report great satisfaction from the use of extension in tumor albus. In certain cases, after very careful adjustment I have found it inadequate, and have in these cases given it up.

5. *Rest*.—In certain very acute cases, extension in bed along the line of deformity is found to be the only efficient and appropriate treatment.

6. *Correction of deformity* may be obtained by various adjustable splints which are usually manipulated by means of screws or buckles and straps. Probably as simple a device as any for correcting flexion at the knee is the Billroth splint, which is inexpensive, easily made and readily adjusted. It consists of two hinged iron strips attached to broad tin plates which are incorporated in a plaster dressing to the limb. A fenestrum in the plaster is left in front, while posterior to the knee it is made three-fourths of an inch thick, and is cut through transversely while hardening. On straightening the knee a gap is thus left posteriorly, into which pieces of cork are inserted, preventing a return of the flexion. I wish to put myself on record as agreeing most heartily with Dr. Ridlon in the belief that rapid reduction of deformity should be made, and that, as he says, "The sooner you correct your deformity the sooner you begin the cure." I have found that you may by the use of the Billroth splint correct the deformity five to ten or more degrees, the pain from the procedure passing off within a few minutes, and in three or four days you may repeat the same process, thus continuing until the limb is straight.

(b) *Operative Treatment*.—The operative measures which I shall consider are:

I. *Correction of Deformity by*

1. Tenotomies,
2. Brisement Force,
3. Osteotomy,
4. Resection.

II. *Aspiration and Parenchymatous and Intra-Articular Injections.*

III. *Erasion.*

IV. *Excision.*

V. *Amputation.*

1 and 2. Many surgeons, for reasons of their own, prefer to correct flexion at the knee by dividing the hamstring tendons, and, should this alone not be sufficient, by the use of *brisement force*. In performing this operation care should be taken to avoid the popliteal artery and peroneal nerve. With the present aseptic methods an open incision would be on the whole safer and will give in the end just as good results. The

amount of force used in the redressment must be determined by good judgment, for by the use of too much force considerable damage may be done to the joint, and even the popliteal artery may be torn; this latter accident has been reported by a member of the American Orthopædic Association. As for myself, I have found that those cases where tenotomies are suggested are readily straightened by the Billroth splint, without undergoing the dangers of an anæsthetic.

3 and 4. Where there is bony ankylosis with deformity, an osteotomy or resection is indicated. Where the deformity is of a moderate amount, say, 135° , a femoral osteotomy is quite satisfactory; but with a deformity near 90° , the correction requires the fragments of the femur to be brought to such an acute angle that the limb is not a good weight-bearing member. In such cases the resection of a wedge of bone is clearly the better operation.

II. *Aspiration, etc.*—If there are evidences of pus having formed in a case of knee-joint disease, the treatment *par excellence* at this stage is the withdrawal of the pus by aspiration, followed by a thorough washing out with a five per cent. solution of boric acid, and then the injection of a ten per cent. emulsion of iodoform in glycerine or pure olive oil. Recently I cured a large hip abscess by four or five of these injections, having previously aspirated.

Under the heading "Iodoformization of Abscesses," Dr. Senn, in his work on Tuberculosis of Bones and Joints, says: (p. 375) ". . . No modern progressive surgeon, at the present time, would entertain the idea for a moment of resorting to operative procedures without giving this method of treatment a fair trial. I regard this treatment as one of the greatest advances in the struggle against tubercular affections of inaccessible bones like the vertebræ. In my own hands it has yielded brilliant results that without it would certainly have been hopeless. I have seen iliac, lumbar, and psoas abscesses the size of a child's head, in communication with tubercular disease of the vertebræ, definitely heal after three or four evacuations followed by irrigation and injection of a ten per cent. emulsion of iodoform in glycerine."

This same author also praises very highly the parenchymatous injection of the same emulsion during the initial stage of the disease, *i. e.*, when it is osseous in origin, and before the joint cavity is affected. This he accomplishes by a trocar and cannula, which is made to penetrate the bony shell over the osseous abscess, or tubercular focus, then through the canula is forced the emulsion into the cancelli of the bone. I have had no experience with this method of injection, but intend making use of it in the future.

III. *Erasion.*—After having given conservative treatment a thorough trial in the case of a suppurating knee-joint, the question of excision or erasion comes up. Erasion should certainly be given a trial in the case of a child under twelve years old, when there is a prospect that in so doing much shortening of the limb may be prevented, and where the destruction of joint tissue is not too great. Not long since a case came under my notice where a complete excision of the knee was done upon a child four years old, suffering from white swelling, but without sinus or abscess. The shortening will surely be from eight to twelve inches. I consider excision in such cases as bad surgery.

IV. *Excision.*—This procedure should be reserved, ordinarily, for children over twelve years old, where suppuration has been prolonged, and there are evidences of considerable dead bone. Even then we are frequently justified in prolonging conservative measures until the child gets its growth, in the meantime, the life of the patient is threatened.

V. *Amputation.*—Amputation is, of course, a last resort, but in the case of adults with prolonged suppuration from an extensively diseased joint, it may be the wisest measure. I have amputated at the upper third of thigh in the case of a young man 18 years old, with a long-standing suppurating knee, and at the time of the operation there was discharge from seven sinuses. I did not strike healthy bone until I reached the upper third of the thigh. The young man is now perfectly well and healthy.

Statistics of Final Results.—Early in the spring of 1890, when the writer was House-Surgeon of the Hospital for Ruptured and Crippled, New York City, Dr. V. P. Gibney, Surgeon-in-Chief to that institution, began the investigation of final results obtained in the treatment of white swelling. Dr. Gibney, assisted by Dr. P. H. Fitzhugh, continued the investigations for about two years, obtaining notes on 499 cases, which included those patients applying for treatment since 1868, but not later than November 14, 1887. As I saw many of these cases I feel that I can speak intelligently on the subject. Dr. Gibney divides these patients into three classes, according to the treatment they had received, as follows:

1. Those receiving the purely *expectant* treatment, which means the treatment of symptoms with little reference to signs, little reference to correction of deformity, and between exacerbations no treatment; the irregular use of apparatus, with frequent changes in the appliance used.

2. The *fixation* treatment, which in this case was the use of immobilizing dressings and the Thomas knee brace.

Of the 499 cases, 223 were females and 276

males. Of 387 cases analyzed in regard to age, 197 or nearly 51 per cent. developed the disease before 5 years of age; 142 or 36 per cent. between 5 and 10 years of age; that is to say, in 339 cases or 87 per cent. the disease developed before the 10th year. Complete histories were obtained in 300 cases; of these 140 or 46 per cent. had abscess; the mortality from the disease is given at 7½ per cent.

Of 71 cases recorded as treated by the expectant plan, 3 died, 2 of which were from the disease; 5 came to excision, 3 to amputation, and 60 remained with fair results. In 190 cases, under the fixation treatment, there were 35 deaths, 20 of which were traceable to the disease itself (about 10 per cent.); 9 came to excision, 1 to amputation, and 145 remained with more or less fair results. Only 39 were subjected to the protective or Thomas treatment. Two died from causes in no way connected with the disease itself; 37 remained with good results.

Analysis as regards motion.—Among 23 suppuration cases—treated by the expectant plan—14 had motion, 9 were ankylosed. Among those with out abscesses (37 cases) 30 had motion 7 were ankylosed.

Under the fixation plan (63 cases where abscess had occurred), 43 retained motion, and 20 were ankylosed; 82 cases without abscess—70 had motion, 12 had no motion.

In 19 cases under the protective plan, where abscess occurred, 16 had motion and 3 were ankylosed. Where abscess did not occur (18 cases) all had motion, none were ankylosed.

A summary of the above is as follows: Of 60 cases under the expectant plan 60 per cent. had motion. Of 145 cases under the fixation plan 76 per cent. had motion. Of 37 cases under the protective plan 95 per cent. had motion.

The position of the limb.—Of 227 cases only 15 recovered with a deformity at an angle under 135°, and 131 had an angle of a deformity not less than 165°; this enabled them to walk with their limbs practically straight, and with scarcely an appreciable deformity.

Gentlemen, who among you can report final results in as many as 37 cases of tumor albus treated under any other than the protective plan, with no mortality and with 95 per cent. retaining motion in the joint?—Wm. E. Wirt, M.D., in *International Journal of Surgery*.

THE DISEASE OF INEBRIETY: SPREE-ING AND TIPPLING.

A not uncommon form of the tendency of inebriety is manifested, especially in young men, in whom the propensity is not fully developed. This consists in the practice of occasional "spreeing," as it is sometimes termed. This forms one of the earliest stages of the habit or attack, and may be properly termed the formative stage. It makes its appearance on occasions of rejoicing, at festivals and celebrations, on Fourth of July and during the holidays. At other times the propensity is dormant, and the individual is in no way affected by it. There is a feature in this malady, which may be properly noted in this place, and that is that in the advanced stages of the disease nothing satisfies but complete intoxication. So completely is the system under the influence of the morbid propensity, that the desire to get drunk is irresistible. No lesser degree of exhilaration or excitement answers—nothing but total obliviousness satisfies the craving propensity.

Inebriety makes its appearance as other diseases make theirs, sometimes by the faults of the individual attacked and at other times from causes over which he has no control. The propensity is quite often hereditary, and transmitted from one generation to another, in accordance with the same law by which any constitutional taint, like scrofula or tubercular disease is handed down. The law of development which, from the germ, fashions and matures an individual, and by which it is made to resemble its prototype or parents, will also in due time bring forth the defects which may have existed in a previous generation. The fact is a familiar one, that children resemble their parents to a certain extent in mental characteristics, disposition, peculiarity of constitution, temperament and form. They are, however, not born with all these characteristics present, but as the child is developed into the man they, one after the other, make their appearance. With the development of consumption under this law we are all familiar. The child is born with a tuberculous taint. During the years of its childhood it may be well and sprightly, keep pace in growth with the most robust; but in the course of its development it reaches a point where its prototype fell into decay and died. This individual will do the same. A tendency to drunkenness will be developed under the same general law. The child will give the fairest promise, its youth will be one of innocence uncontaminated by evil influences, and the first years of manhood will be free from spot or blemish; but the critical period arrives and suddenly like a fatal cancer

It has been computed, *Scientific Am.*, that the death-rate of the globe is 68 per minute, 97,790 per day, or 35,717,790 per year. The birth-rate is 70 per minute, 100,800 per day, or 36,817,200 per year, reckoning the year to be 365¼ days in length.

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is the condition of the woman who has been relieved from some functional disturbance to her state before relief. Don't you know Doctor that there are few cases that pay the physician so well as those of women—and the Doctor that relieves one woman, lays the foundation for many more such cases—all women talk and your patient will tell her friends. ASPAROLINE COMPOUND gives relief in all cases of functional disturbance—Leucorrhœa, Dysmenorrhœa, etc., and in the cases it does not cure it gives relief. We will send you enough ASPAROLINE COMPOUND—free—to treat one case.

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there is developed this morbid propensity. The man becomes changed, his appetites are aroused, his whole nature undergoes a transformation, and the prospect of his early years is blasted by drunkenness. No condition in life is exempt from such instances. We meet them everywhere, in the pulpit, on the bench, at the bar, in the church and among "all sorts and conditions of men." The period in life at which the propensity to drink is developed varies in different individuals. In some it appears in early youth, in others in the first years of manhood. The great number of young men addicted to the intemperate use of ardent spirits, who are to be found in our large cities and principal towns, are examples of this class. Cases also occur where late in life the propensity first makes its appearance. Other forms of drunkenness are apparently brought on by disturbances or by great excitation of the emotional nature, or by the depressing passions, especially by grief, disappointment, mortification, shame, or loss of property, etc. In many cases the exultation following the accomplishment of some successful undertaking excites a paroxysm of inebriety. I have been led to believe that this form of emotional excitement is more frequently the immediate cause of an attack than those disturbances attended by depression of mind. The rapid accession to fortune, political distinction, success in any enterprise, are very often precursors and excitants to a course of inebriety.

The practice of tipping has heretofore been regarded not only as the ordinary but the sole cause of the development of inebriety. In fact, every case formerly was attributed to this practice. Under this view the individual was looked upon as voluntarily entering upon a habit which was sure to bring upon him a drunkard's fate. This practice has consequently been denounced as criminal, and the drinker been subjected to the severest reprobation. The courts have held that the delirium of intoxication was no excuse for violence or crime of any kind, for the condition was brought on by the voluntary act of the individual himself. It must be evident, however, that this practice is but the first manifestation of the morbid propensity, and is as much a part of methomania as is the consequent continuous or inveterate stage. The inclination to tipple, whenever occurring, should consequently be regarded with alarm, as indicating the approach of a most serious and grave disease. Measures to arrest its advance should at once be employed, as any sanitary precautions are taken to prevent the approach of yellow fever or cholera. It is in this stage that recovery is most likely to take place, for the disease is then only in process of formation and it is more easily thrown off. The will then has not become weak-

ened or overpowered and the recuperative energies of the system have not been impaired.

In that form of inebriety which has been attributed to the influence of emotional disturbances, it may likewise be doubted whether these influences are the direct cause of the paroxysms; they only operate as exciting causes, and by their influence upon an organization already predisposed, weaken the power of resistance, and give favorable opportunity for the development of the disease. We have all seen individuals drawn into the vortex and swept away under disturbances of the emotions and passions, and this is no more strange than that the same causes should, in others, disorder the intellect, destroy its balance and overwhelm its faculties; occurrences which I believe are not uncommon. Do not both these conditions equally claim our sympathy and benevolent exertions? Is one wicked while the other is properly regarded as unfortunate? In all of these cases, both of methomania and insanity, we must recognize a previous predisposition to the attack. The fact that many undergo all these emotional disturbances and excitement without developing either drunkenness or derangement of mind, is conclusive that they alone are insufficient. There is a previous susceptibility to these attacks which must be regarded as unsound and morbid.

It may be remarked as to the effects of this disease upon the character of the individual, and its influence upon the moral and affective faculties, without reference to any consequent organic lesions or functional derangement, that the tendency of the practice of drinking is to obscure and destroy all the higher and nobler impulses of human nature, and in prolonged cases, where the disease has wrought out its full effects, the subject of it may become completely debased and lost. Under every circumstance the effects of alcoholic indulgence are dire enough, as we all must admit, yet I believe that we have been accustomed to regard the drunkard as lost, too soon. He is not always, in fact, I believe that he will rarely be found to have become utterly abandoned. I do not believe that, even in the worst cases of inebriety, one's manhood is entirely obliterated. It is often completely overborne by the power of that terrible propensity to drink, so that no signs of its existence are put forth; but give it the opportunity, let an opening once be made in the prison house in which it is incarcerated, and the soul and the higher instincts of the man would spring forth once more, like a bird escaped from its cage, to enjoy again their freedom and a new life.

The whole subject is one of engrossing interest. Upon the medical profession will devolve the duty of treating the subject in the light of true science, in the hope and belief that, as variola has been or can be rendered harmless by vaccina-

tion, so the proper employment of remedial measures may exterminate or at least make powerless for evil, the fearful scourge of inebriety.

Elsewhere, Dr. Burr says: "It is this condition of the nervous system calling for alcoholic stimulants that is essentially the disease. This condition begins when the first inordinate desire is experienced. The intensity of this desire, whether it be mild or virulent, does not change its character. The slightest departure from a normal appetite indicates the beginning of inebriety. The first unnatural longing for drink is essentially of the same nature as the most invertebrate and uncontrollable desire. The difference is only in degree.

"The medical profession must study this subject as physiologists and pathologists, and not as moralists or reformers. The laws governing the organism, the dependence of a healthy mind upon a healthy physical condition, the transmission of normal sensations only through the media of sound nerve trunks and *vice versa*, are well determined facts, and they must be recognized and applied in the consideration of the subject of intemperance, and in explaining the unnatural phenomena of the inebriate."

The late Dr. D. G. Dodge, one of the trustees and formerly superintendent of the New York State Inebriate Asylum, at Binghamton, N. Y., some years ago expressed himself as follows, in a paper on "Inebriate Asylums and their Management": "Inebriety is a condition of the system exhibiting a class of symptoms resulting from a long-continued and excessive use of alcoholic stimulants, which brings the subject to a condition he is too weak to overcome and for which he is not responsible. All stimulants containing alcohol must produce this disease; but those containing the most alcohol, when habitually taken, act more thoroughly and rapidly. It is alcohol and nothing else that is the exciting cause of the disease. Occupation has a powerful controlling influence in developing or warding off the disease. In-door life in all kinds of business is a predisposing cause, from the fact that nearly the whole force of the stimulant is concentrated and expended upon the brain and nervous system. A proper amount of out-door exercise, or labor, tends to throw off the stimulus more rapidly through the various functional operations of the system. Occupations of all kinds, mental or muscular, assist the nervous system to retard or resist the action of stimulants—other conditions being equal. Want of employment or voluntary idleness is the great nursery of this disease. The use of tobacco predisposes the system to alcoholism, as it has an effect upon the brain and nervous system similar to that of alcohol. The use of tobacco, if not prohibited, should be discouraged."

Statistics show that inebriety oftenest prevails between the ages of 30 and 45. The habit seldom culminates until 30, the subject, to this age, generally being a moderate drinker; later in life the system is unable to bear the strain of a continuous course of dissipation. Hereditary inebriety, like all transmissible diseases, gives the least hope of permanent cure, and temporary relief is all that can generally be reasonably expected.—Dr. E. C. Mann, in *Gaillard's Med. Jour.*

PSEUDOCYESIS—SPURIOUS PREGNANCY.

I had hoped to show you to-day a case which is of unusual interest and of the utmost rarity. The patient will, I think, come hither sooner or later, because she is convinced I am wrong as to her state, and because Professor Hirst, whom I shall ask to see her, will agree with her and disagree with me. Moreover, she is hysterical and inclined to exhibit herself. I shall not wait for her return, as it may never happen, but take her case as a text or an excuse for dwelling on a subject of interest to both the obstetrician and the neurologist.

I find it somewhat hard to fit her case and others like it with a label. If I call it simulation of pregnancy, that would be near to a satisfactory name; it would not fully satisfy me. As usual, I should have to qualify and explain it. Perhaps it were well to leave the matter until I have stated some illustrative examples. Before doing so, I shall give an outline, so to speak, a delineation of the interesting condition for which I wish to claim your attention.

A woman, young, or else it may be at or past the climacteric, eagerly desires a child, or is horribly afraid of becoming pregnant. The menses become slight in amount, irregular, and at last cease or not. Meanwhile the abdomen and breasts enlarge owing to rapid taking on of fat, and this is far less visible elsewhere. There comes with this excess of fat the most profound conviction of the fact of pregnancy. By and by the child is felt, the physician takes it for granted, and this goes on until the great diagnostician, Time, corrects the delusion. Then the fat disappears with remarkable speed and the reign of this singular simulation is at an end. When I describe one or two of these cases you will, I fancy, agree with me that the subject is worth discussing.

Perhaps the cases may be more common than I think they are. As a consultant I might rarely hear of them. The general physician and obstetrician are more liable to encounter them, and yet they must be uncommon. Some years ago I had asked Dr. Duer if he recalled the two or three

cases of this nature sent to him by me. He said yes, and that he had also met with one or two others. Shortly after this I was consulted by a lady in regard to a woman of thirty years of age, a nurse in whom she was interested. This person had been married some three years to a very old man possessed of considerable estate. He died, leaving his wife her legal share, and the rest to distant cousins, unless the wife had a child. For two months before he died the woman, who was very anæmic, ceased to menstruate. She became sure that she was pregnant, and thereupon took on flesh at a rate and in a way which seemed to justify her belief. Her breasts and abdomen were the chief seats of this overgrowth. The menses did not return, her pallor increased; the child was felt, and every preparation made for delivery. At the eighth month a physician made an examination and assured her of the absence of pregnancy. A second medical opinion confirmed the first, and the tenth month found her of immense size and still positive as to her condition. At the twelfth month her menstrual flow returned, and she became sure it was the early signal of labor. When it passed over she became convinced of her error, and at once dropped weight at the rate of half a pound a day, despite every effort to limit the rate of this remarkable loss. At the end of two months she had parted with fifty pounds and was on the whole less anæmic. At this stage I was consulted by letter, as the woman had become exceedingly hysterical. This briefly stated case, which occurred many years ago, is a fair illustration of my thesis. Another instance I saw when in general practice. A lady who had several children and suffered much in her pregnancies, passed five years without becoming impregnated. Then she missed a period, and had, as usual, vomiting. She made some wild efforts to end her supposed pregnancy, and failing, accepted her fate. The menses returned at the ninth month, and were presumed to mean labor. Meanwhile she vomited up to the eighth month and ate little. Nevertheless she took on fat so as to make the abdomen and breasts immense and to excite unusual attention.

No physician examined her until the supposed labor began, when, of course, the truth came out. She was pleased not to have another child, and in her case, as in all the others known to me, the fat lessened as soon as the mind was satisfied as to the non-existence of pregnancy. As I now recall the facts, this woman was not more than two months in getting rid of the excess of adipose tissue.

Dr. Hirst tells me he has met with cases of women taking on fat with cessation of the menses, and in which there was also a steady belief in the existence of pregnancy. He has not so followed up these cases as to know if in them the fat fell

away with speed when once the patient was assured that no child existed within her. My much regretted friend Goodell, promised me the detailed account of at least two examples having precisely the sequence of symptoms I have described.

These women are in no sense of unsound mind, nor is their illusion to be classified with the delusory and obstinate belief as to their pregnancy held by some of the insane. These latter persons may be virgins or not. Sometimes the idea has arisen in connection with uterine symptoms, or else is the outcome of some exposure to the creation of pregnancy and alarm at a possible but non-existent pregnancy. Many of these people hold to the notion for years. Dr. Hirst recalls to me the story of Dupuytren, who, when consulted for such a case of eighteen years' duration, advised the woman to swallow a private tutor. It is said to have cured the case, which I much doubt. I knew of one instance in which a physician etherized such a case, and assured the woman he had taken away a dead child. This answered for a week, and then she confided to him her regret that he had not taken away the other, as now she knew they were twins.

The delusion of pregnancy in the insane is neither created or kept up of need by excess of flesh or failure of menstruation. No such food for fancy is needed. It defies the contradictions of time and the popular knowledge of physiology.

The illusion of the patients I describe is inevitably destroyed by time and adverse circumstance.

I can find no mention anywhere in literature of cases like those I have described. Perhaps I may have overlooked them or they might be found on more careful search. Yet, after inquiry of men with the large experience of Goodell and Duer, I am forced to believe them exceptionally rare.

A woman who is emotionally eager to have or not to have a child; one with the unsatisfied craving for motherhood, or one who has been fearfully tormented in her pregnancies—these, I think, are the class of women liable to this complex group of symptoms. More rarely it is a woman long childless, who somewhat early and suddenly ceases to flow, and, as is not rare at the climacteric, puts on flesh very rapidly. The illusion of pregnancy is in such females a flattering one.

The other cases are the more interesting. The woman has naturally and too constantly dwelt, with disappointed hope or abiding fear, on the loss or delay of the periodic bleeding. Then she becomes more gladly sure or more alarmed, as the case may be, as she gains flesh especially abdominal fat. Is this gain in flesh an accident of nutrition which combines, with lessened or absent menstruation, to give and sustain her growing illusion as to pregnancy? Women, as I long ago remarked in my book on *Rest Treatment*, are

easier to fatten than men; also in them gain or loss of adipose tissue is more common than in the other sex, and less significant as to health or of pathologic disaster. The point as to which I remain in doubt is as to whether belief in the presence of the pregnant condition in anyway influences the really singular gain in fat seen in certain of these cases. Whether it is, as I said, coincident, and assistant of belief, or whether it follows that mental state, I do not know. Some women thus deluded are when once assured of pregnancy, likely to be careful to exercise less than usual, and acquire, like some pregnant women, excessive appetites. Also it is quite sure that once they are convinced of their delusion they lose flesh very speedily, and this, too, may be in a measure due to a return to normal habits. Still there remains for us the unsolved problem of how much the mind has to do with the gain and loss of weight. The first of these cases I ever saw was brought to my knowledge in a singular way: A woman had given birth to two female children. Some years passed, and her desire for a boy was ungratified. Then she missed her flow once, and had thrice after this, as always took place with her when pregnant, a very small but regular loss. At the second month morning vomiting came on as usual with her. Meanwhile she became very fat, and as the growth was largely, in fact excessively, abdominal, she became easily sure of her condition. She was not my patient, but her husband consulted me as to his own morning sickness, which came on with the first occurrence of this sign in his wife, as had been the case twice before in her former pregnancies. I advised him to leave home, and this proved effectual. I learned later that the woman continued to gain flesh and be sick every morning until the seventh month. Then menstruation returned, an examination was made, and when sure that there was no possibility of her being pregnant she began to lose flesh, and within a few months regained her usual size.

The sympathetic vomiting of the husband is an interesting subject to which I called attention some years ago in my lectures on nervous maladies.—Dr. Weir Mitchell in *Med. News*.

UNFAVORABLE REPORT ON ANTITOXIN.—After a thorough study in various hospitals of Berlin of the use of Behring's diphtheria-serum, Passed Assistant Surgeon F. J. B. Cordeiro, U. S. N., in a report to the Surgeon-General of the Navy, concludes that so far proof is lacking of the value of antitoxin in the treatment of diphtheria. Dr. Cordeiro adopts the following opinions of Kassowitz: "1. A large number of children treated with both small and large immunizing doses have within a few weeks acquired diphtheria, and some

of them have died of it. We do not possess a single scientific proof that a case of diphtheria was ever prevented by the immunizing process. 2. Children who during a first sickness have been treated with large doses of serum have a short time after acquired diphtheria anew. They were not rendered immune either by their sickness or the largest doses of the antitoxin. 3. In a large number of cases children have been treated on the first or second day of their illness with the fullest doses of the antitoxin and have died. 4. It is certain that a large part of those who have died notwithstanding the serum treatment did not die from the effects of a mixed infection, but directly from the specific effects of the Loeffler bacillus. 5. Heart and other post-diphtheritic paralyses are also seen in early and fully treated cases, and they occur as often as they did before the serum treatment. 6. Of a fever fall by crisis in the first twenty-four hours, and of a pronounced antipyretic effect of the serum, most observers have seen nothing or next to nothing. 7. The separation of the membrane follows in the cases that run a favorable course in the customary manner. But often there is an extension of the local process, and a renewal of the already separated membranes during and after the serum treatment.

"The burden of proof lies with Behring and his co-workers. The world will eagerly and only too willingly receive this proof. We know that the former extravagant promises are out of the question, but we should be grateful to have it demonstrated that the serum can reduce the mortality by even one per cent. As yet we have not the slightest basis on which to found an expectation that fewer children will die in the future of this disease on account of the serum treatment."

Dr. Cordeiro's paper will be published in full in the next annual report of the Surgeon-General of the Navy.—*Medical Record*.

DISSOLVED in the "Wine of Cod Liver Oil" (Stearns') are the active principles of Cod Liver Oil, to the exclusion of the oil itself—a statement which a somewhat extended examination has to some extent confirmed. Thus on extracting the wine with ether and carefully treating the ethereal extract (which is an oily, brown, resinous body, having a peculiar fishy smell) with a strong sulphuric acid solution of glucose, the beautiful purple reaction characteristic of biliary constituents is obtained. The same reaction is effected when the extract used in the preparation of the wine is similarly tested, but to a more marked degree. Recent investigation has led to the isolation of several distinct bodies in Cod Liver Oil, notable amongst which are the alkaloids aseline and morrhaine, in association probably with morrhucic, formic, butyric, and phosphoric acids.

These principles have been tested clinically, and the results formed the subject of an exhaustive report by Gautier and Mourgues in the *Journal de Pharmacie*, March, 1890, who concluded that the combined active principles of Cod Liver Oil act as powerful stimulants of nutrition and assimilation, and show definitely the nature of the principles to which the oil to some extent owes its valuable medicinal properties. The wine evinces an acid reaction, is alcoholic, and contains also Peptonate of Iron.—The *Lancet* (London Eng.), July 7, 1894.

CONTRIBUTION TO THE ETIOLOGY OF GENERAL PARALYSIS.—Dr. Theodore Kaes, in a recent report gives the following statistical information concerning the percentage of cases of general paralysis among the inmates of the Hamburg asylum. From January 1, 1870, to December 31, 1889, there were admitted to this asylum, 9,148 patients, of whom 4,970 were males, and 4,178 were females. Of this number, 1,412 suffered from general paralysis, or about 15.44 per cent. of the entire number; the percentage for males being 21.99 per cent., and for females 7.55 per cent. Among the patients who left the asylum during same period, 22.74 per cent. of the men and 7.39 per cent. of the women were general paralytics. This would make the general average for both sexes 15.485 per cent.; for the males, 22.365 per cent. and for the females, 7.47 per cent. These statistics correspond very closely with those given by Prof. Mendel, as the collective statistics of German asylums. An important point in which the present writer differs from Mendel, is the proportion of males to females. Mendel gives the proportion 5 to 1, while Kaes' observation shows a proportion of 3.44 to 1. Dr. Kaes also gives statistics showing that there has been an absolute as well as a relative increase in general paralysis in Hamburg from 1870 to 1890, the increase varying in different years. The most important factor in the etiology of the disease is, in his opinion, excess in taking stimulants; next to that heredity, syphilis, and the tabes dorsalis. Head injuries, acute infectious diseases, etc., which are often given as causes, he does not think, have a very intimate etiological relationship. It would seem that in women the age of the patient is younger, when the general paralysis first shows its development than it is in men, which is on account of the important parts prostitution and alcoholic excesses play as etiological factors of the disease in women.—*Allg. Zeitschr. f. Psychiatrie*.—*N. Eng. Med. Month.*

ELECTRICAL TERMS.—The "volt" is the unit of measure of electro-motive force which will circulate a current of electricity of one "ampeer" through a resistance of one "ohm."

The "ampeer" is the unit of measure of the volume of the "volt" or "strength" of a current. The "ohm" is the unit of measure of the resistance of the circuit.

The number of ampeers flowing through any circuit is equal to the number of volts of electro-motive force, divided by the number of ohms of resistance in the entire circuit. (Ohm's Law.)

The term "electro-motive force" is used to designate the pressure or head under and by virtue of which an electric current circulates. This is created by a "difference of potential" causes, from the two sides of the source of supply.

"Difference of potential" corresponds to a difference in level in hydraulics or a difference in temperature in thermo-dynamics. A current will flow from a higher or "positive" potential to a lower or "negative" potential, as there exists a difference of potential.

The "coulomb" is the established unit of measurement of the quantity of the current, and its value is equal to that quantity of electricity which will flow through or into a body when one ampeer of strength flows for one second of time.—*Albany Med. Annals.*

FISTULA IN ANO.—In doing a radical operation for fistula the following points, according to Dr. J. H. Bacon, should be observed:

1. Never sever the sphincters at more than one place at the same operation, no matter what the complications may be, otherwise incontinence is sure to follow.
2. Unless all the channels are followed up and laid open, the operation will fail of its purpose.
3. Fistula resulting from tubercular abscess must not be operated upon if there is sufficient tissue destruction of lung to produce hectic, fever, sweats, etc., unless the fistula is causing severe painful spasms of the sphincters, then it should be divided at any stage.
4. After laying the fistula tract open, the wound must be made to heal from the bottom, and as the cutaneous or mucous side of the wound is better nourished it will throw out a more healthy granulation, that tends to bridge over and close the slower granular surface at the bottom, thus leaving a fistula remaining.
5. When the fistulous tract is not too complicated it should be dissected out entire and the wound brought together, beginning at the bottom with continuous catgut sutures and approximating the surfaces in successive layers until the whole wound is closed.—*Northw. Med. Jour.*

BITING THE NAILS.—Dr. Bérillon, as the result of an extensive inquiry, confirms his previously expressed opinion that onychophagia and similar habits are generally associated with degeneracy.

The frequency of onychophagia varies greatly in different institutions. In some, two or three out of every ten children are addicted to biting their nails. A careful examination invariably reveals signs of degeneracy. The children are usually less healthy in appearance than others, presenting deformities of the skull and anomalies of the teeth and ears. In such subjects the teachers notice a marked antipathy to physical exercises and games requiring effort. They write poorly, and show marked inferiority in respect of manual dexterity. They are slow to learn; they are incapable of continuous application; in fact, they always exhibit an inferiority in some direction or other. The disciplinary measure usually resorted to to correct bad habits are powerless in this; in the majority of cases only *hypnotic suggestion* seems to be capable of affecting a cure. The habit of biting the nails sometimes persists until late in life.—*Med. Week.*

UNHEALTHY FEARS, OR PHOBÆ. — Macbeth “supped full with horrors.” But could he return and live in modern times, he might even have a richer banquet than his first; for a Frenchman, M. Gelineau, has just published a volume upon “Unhealthy Fears, or Phobæ.” These curious and uncomfortable states of mind were first described by Benedict and Westphal; but there are many species, and M. Gelineau has carefully compiled a complete list for the benefit of his shuddering and yet fear-bound reader. They are *nichmophobia*, or fear of sharp points, as of needles or pins; *agoraphobia*, or fear of open spaces, with a sub-variety, *thalassophobia*, or dread of the ocean; *astrophobia*, or fear of the stars and celestial space; *claustraphobia*, or fears of enclosed spaces; *mysophobia*, or fear of filth; *hæmatophobia*, dread of blood; *necrophobia*, or horror of dead bodies; *thanatophobia*, or dread of death; *anthropophobia*, or fear of crowds; *monophobia*, a fear of being left in solitude; *bacillophobia*, or fear of microbes; *siderodromophocia*, or dread of railways; *pathophobia*, or fear of disease—with many subdivisions, of which the most important and most frequent are *anginophobia* (fear of *angina pectoris*), *ataxophobia*, *syphilophobia*, *lyssophobia* (or fear of rabies), *spermatophobia* and *zoophobia* (or fear of animals), which in its turn has subdivisions for cats, dogs, horses, mice, etc., *ad totum catalogum animalium*. Returning to the list, we find still *kleptophobia*, fear of becoming a *kleptomaniac*; *pyrophobia*, fear of matches; *stasophobia*, dread of standing upright; *ærophobia*, or dread of draughts of air; *ocrophobia*, fear of high places; *toxicophobia*, a fear of poisons; *demonnophobia*, a dread of the devil (this is rather rare). There are also a very great number of phobæ peculiar to certain professional persons—as physicians, artists, merchants—which have yet

to be Hellenized and classified. The culminating fear, however, the quintessence of dread, is the fear of having a fear, the dread of having a dread, or *phobophobia*.—Ed. in *Boston Med. and Surg. Jour.*

WALTER W. S. CORRY, M.D., L.R.S.C., I. & C., Rosedale Abbey, Pickering, Yorkshire, England, writes: “I have used IODIA, and am satisfied that it is a very powerful alterative, and a great improvement on the old combination of iodide of potassium and sarsaparilla, the latter drug itself being most doubtful in its effects, while the preparation is valuable also as a diuretic, a thing of no small consideration in most of the diseases in which it is indicated.

J. E. O’CONNOR, M.B., B.Ch., Leicester, Eng., says: “In a case of urethritis accompanied by cervical cystitis and urethral synovitis the administration of Sanmetto was attended with most satisfactory results. The drug appears to relieve the pain, reduce the irritation, and produce healing and cessation of the micro-purulent discharge more speedily and efficaciously than any other remedy.”

THE SCHEMING MICROBE.

A microbe sat on a maiden’s lip, right on its kissiest part,
And murmured, “I’ll work that young man off in the highest style of art:
I’ll send a raging colony careering through his veins,
And they shall soak his system with a choice lot of ptomaines.
“O, I’m of the choleraic sort and the epidemic brand,
And you may bet the victim knows whenever I’m on hand;
For I raise a rumpus in his guts, like a slowly bursting bomb,
Which only ends as a general thing, when he reaches kingdom come.”
Now, him that the grizzly microbe had in its measly, pizen mind,
Was a nicish, youthful laddie of the hottest blooded kind;
Who loved this sweetish, youngish girl with an incandescent vim,
Which only found an offset in the way in which she loved him.
Well, on the next sweet Sunday night, this nicish, youngish man
Was seated on the same chair with his darling Mary Ann;
And he hugged her until he nearly busted her precious diaphragm,
And kissed her sixteen hundred times with a zest of a battering ram.
The microbe had been swapped at least one thousand times, and when
The young man left the ornery beast was still with Mary Ann;
When her beau was gone she finished up by kissing “Puggy Wee,”
And the next day that devoted pup most died of diarrhoea.

—W. C. Cooper, in *Medical Gleaner*.

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AGENTS.—DAWSON BROS., Montreal; J. & A. McMILLAN, St. John, N. B.; Canadian Advertising Agency, 60 Watling St. London. 5 Rue de la Bourse, Paris.

TORONTO, JUNE, 1895.

Editorial.

THE CONSUMPTIVES' HOME.

Through the generous action of one of Toronto's citizens, Mr. W. J. Gage, the authorities have taken into consideration the establishment of a home for patients suffering from phthisis. In this they show much wisdom. It needs no lengthy argument to impress every member of the profession with the necessity of such an institution for the relief of many subjects suffering from this disease.

In the treatment of a disease, notably effected favorably or otherwise by climatic conditions, those having to do with the choice of a site can not be unduly careful in making their selection.

The advantages to a patient, of the regular life of a Sanitarium, its early hours, plain food, regular medical attendance, amusements, freedom from business cares, etc., are great; but an unsuitable climate would more than counterbalance all these in the case of consumptives.

Volumes have been written on the kind of climate most favorable to pulmonary complaints, and nearly every physician has his own ideas upon the subject. Our own North-West holds a favorable place amongst others, suitable for the residence of sufferers from chest troubles, and if the authorities go through with the proposed scheme, some point easy of access, no doubt on the line of the C. P. R., will be chosen.

We have received a pamphlet prepared by Drs. Furrer and Lambert, of Kamloops, B. C., setting forth the advantages of that town as a site for the proposed Sanitarium. It would seem that the idea of establishing such a Home at Kamloops is not a new one, vital statistics, averages of temperature, etc., having been collected and published as long ago as 1890.

The certified report shows that Kamloops is almost free from zymotic diseases, and that the death-rate among children is practically *nil*. The water of both rivers is remarkably pure, and extremes of cold are far less than in Manitoba and the North-West. The heat of summer is always tempered by cool nights. From a perusal of the testimony presented in the report, we are inclined to think that no more favorable situation exists in Canada, and certainly not on the line of the C. P. R., for the location of this proposed Home, which we sincerely hope may soon be materialized, to the comfort, health and hope of hundreds of sufferers now practically hopeless.

THE LIABILITY OF HOSPITALS FOR MALPRACTICE.

It would seem at first blush so obviously unjust that patients receiving free aid at an hospital or dispensary should presume to ask for damages and make allegations of malpractice that the necessity for a law on this subject would not appear. The experience of numerous hospitals in the United States, as well as that of our own General Hospital, is that not only will patients accept of gratuitous aid but will take the earliest opportunity to set up a claim against either the institution or the unfortunate member of the staff under whose care the plaintiff was placed. It is a fact which cannot be gainsaid that every ordinary care is exercised in cases which are admitted to hospitals. These cases are not the most dangerous from a medico-legal standpoint, because a careful record is kept and much is known one way or another of the patient. But in the case of an out-patient who presents himself at a clinic and about whom absolutely nothing is known, the danger is great. Yet such a person has the same rights to suit that an in-patient has and he sometimes exercises them, under the guidance of a pettifogging lawyer. As the law stands, every individual practitioner who

attends in or out-patients is personally liable for their treatment and in case of a charge of malpractice being set up is liable for damages, and for costs in case the plaintiff is worthless. It will be thus seen how great a risk men run, in pocket, in reputation, and in peace of mind who attend who attend hospital patients. The law should be amended so as to make the hospital trustees responsible financially for the staff, both out-door and in-door, as was proposed by the Bill introduced by Dr. Ryerson last session of the Legislature, or the acceptance of gratuitous aid should bar the right to suit. We commend this important matter to the earnest consideration of the Council, with a hope that they will do something through the Legislature to remedy this crying evil.

THE ONTARIO MEDICAL ASSOCIATION.

The next meeting of this, the most vigorous medical association in Canada, promises well. There is a superabundance of papers, and one great question with which the committee of arrangements will have to deal, will be the keeping of the papers and discussions within certain well defined time limits. We have the provisional list of subjects before us. They are well selected, and our readers will notice that, while most of the work is being done by home men, a few notables from the outside are to be with us.

DISCUSSIONS AND PAPERS.

The President's Address.—R. W. Bruce Smith, Hamilton.

Papers by Guests.—Intestinal Complications in Gynecic Surgery—J. B. Murphy, Chicago. Embryonic Remains in Cases of Eczema of the Navel—Robert T. Morris, New York. Operative Treatment for Bronchocele—Francis J. Shepherd, Montreal. Laryngeal and Tracheal Tuberculosis, and the Importance of their Early Recognition and Treatment—F. W. Chappell, New York.

Discussion in Medicine.—Diphtheria—W. J. Wilson, Richmond Hill; followed by G. M. Aylsworth, Collingwood, and J. T. Fotheringham, Toronto.

Discussion in Surgery.—Delayed Union in Fractures—George A. Peters, Toronto; followed by I. H. Cameron, Toronto, and A. McKinnon, Guelph.

Discussion in Therapeutics.—The Physiological and Therapeutic Action of Iron, with a discussion of its newer Pharmaceutical Compounds—H. A. McCallum, London; followed by J. H. Sangster, Port Perry, and A. T. Rice, Woodstock.

Discussion in Obstetrics.—The Primary Repair of Gen-

ital Lesions of Child-birth—K. N. Fenwick, Kingston; followed by H. Meek, London, and H. T. Machell, Toronto.

The Present Position of Antitoxin in the Treatment of Diphtheria—Charles Sheard, Toronto. Antitoxin in the Treatment of Diphtheria, with Clinical Notes of Cases—J. D. Edgar, Hamilton. Calomel Fumigation in the Treatment of Diphtheria—T. F. McMahon, Toronto. Phlegmasia Dolens, Report of Cases—J. Campbell, Seaford. Constipation—H. Arnott, London. Treatment of Pulmonary Tuberculosis—D. Marr, Ridgetown. A few Remarks on Home and Foreign Climate in Consumption—E. Playter, Ottawa. Science in Medicine—F. Oakley, Toronto. Hydrotherapy in the Treatment of Exanthematous Fevers—A. K. Sturgeon, Petrolia. Inflammations of the Optic Nerve, their Causes and Prognosis—G. S. Ryerson, Toronto. Cataract—R. A. Reeve, Toronto. A Case of Pneumo-Peritoneum—C. J. Hastings, Toronto. Puerperal Insanity—N. H. Beemer, Mimico. Narcotic Addiction—D. Lett, Guelph. Notes on Paresis—Ezra H. Stafford, Toronto. Use of the Stomach Tube—G. Hodge, London. A Case of Scurvy in a Child—H. T. Machell, Toronto. A Case of Progressive Unilateral Facial Atrophy—T. F. McMahon, Toronto. A Case of Morphœa—A. McPhedran, Toronto. Notes on an Epidemic of Herpetic Tonsillitis—J. R. Hamilton, Port Dover. The Antiseptic and Eliminative Treatment in Typhoid Fever—W. B. Thistle, Toronto. Traumatic Hysteria—D. C. Meyers, Toronto. Currents and Counter Currents in Therapeutics, or a Plea for Rationalism in the Treatment of Disease—J. H. Sangster, Port Perry. Intelligent Use of Rectal Injections, with Improvement of ordinary Enema Syringe—P. P. Burrows, Lindsay. Some Remarks on Pneumonia, with Report of an Interesting Case—R. V. Bray, Chatham. Metallic Sutures in Fracture of the Patella—J. J. Cassidy, Toronto. Cases of Post-Pharyngeal Abscess, Double Cephalhæmatoma, Leucoma, Colitis, etc.—G. Acheson, Galt. Traumatic Septicæmia—J. C. Mitchell, Enniskillen. An Operative Procedure for Spina Bifida—H. Howitt, Guelph. Intestinal Anastomosis, with Murphy's Button—J. L. Davison and L. Teskey, Toronto. A Case of Anterior Abdominal Nephrectomy for Calculus, with Patient—L. MacFarlane, Toronto. An Operation for Hare-Lip—A. Groves, Ferguson. (a) A Case of Ectopic Gestation, 4½ Months, Operation and Recovery. (b) A Case of Mental Aberration following Removal of an Ovarian Cyst—W. J. Gibson, Belleville. Tumors of the Bladder, Report of Cases—F. LeM. Grasset, Toronto. Seminal Vesiculitis—E. E. King, Toronto. Foreign Bodies in the Knee-Joint—G. Bingham, Toronto. Modern Experimental Surgery on Man and Woman, a Criticism of Operations done and the Results obtained—J. F. W. Ross, Toronto. The Use of Ichthyol in Gynecology—L. Sweetnam, Toronto. Use of the Projection Microscope in the Teaching of Anatomy—A. Primrose, Toronto. Display of Bacteria—J. Caven and F. N. Starr, Toronto. Notes on Carcinoma—H. B. Anderson, Toronto. Remarks on Appendicitis, with Report of Case of Recovery after Rupture of Abscess into the General Peritoneal Cavity; Exhibition of Specimen—T. K. Holmes, Chatham. Some Remarks on the Operation for Cleft Palate—G. McDonagh, Toronto.

CANADIAN MEDICAL ASSOCIATION.

The next meeting of this Association will be held in Convocation Hall, Queen's University, Kingston, on August 28th, 29th and 30th next. This, owing to a number of circumstances, promises to be one of the largest Conventions ever held in Canada.

Dr. James Stewart, of Montreal, will deliver the address in Medicine; and Mr. I. H. Cameron, of Toronto, the address in Surgery. It is intended to have a skin clinic, at which several interesting cases will be presented, and these will be discussed by prominent dermatologists. There will probably be other clinics as well.

Another pleasure partly expected is that of having the first President of the Association, Sir Charles Tupper, at the meeting.

 LETTER FROM BERLIN.

Among the interesting cases examined at Prof. Mendel's Poliklinik here, was one of Graves' disease, or, as the Germans call it, Basedowsche Brankheit, although the latter physician's account of it appears five years after Dr. Graves, the Englishman, had described it. As this was such a typical case, "a class case," as they called it, I have taken occasion to give your readers a short description of it. The patient was a rather stout servant girl, 28 years old, unmarried. Father died when patient was young, cause unknown. Mother died of phthisis; no brothers or sisters; no history of nervous or other hereditary disease in family. She was positive that none of her relations had been affected with a similar disease.

She always enjoyed good health until about two years ago. Had given birth to one child who died in infancy; no abortions. The present trouble began in '93, and first appeared as palpitation of the heart, followed by general weakness, shortness of breath, flushing of face, profuse and frequent perspiration. Her eyes began to be more prominent and weak and became somewhat swollen. She also noticed that when she attempted to do anything her hands and arms would tremble and jerk, but no spasms occurred. When irritated would easily give way to bursts of temper or fits of crying. Menses became scanty and irregular,

every two weeks being the rule. Surface of body often felt hot and uncomfortable, with frequent appearance of a red rash. Appetite poor, vomiting occasionally and bowels irregular.

Statuo presens.—

Very marked exophthalmus, bilateral and equal lids widely separated, exposing a great deal of the sclerotic, but can be closed completely. Almost entire absence of the act of winking. This apparent retraction of the upper lids with absence of winking is described as Stellway's symptom. The eyes moved freely in all directions, but in the downward movements the upper lids were observed not to follow as in health, but to remain in a retracted state.—Graefe's symptom. The power of convergence defective, for when patient fixed on an object held close to her nose the left eye gradually turned outwards, due to weakness of internal rectus—Möbin's symptom. The pupils were equal, regular, moderately dilated and reacted normally to light and accommodation.

The thyroid gland was moderately enlarged, right lobe more so than left, and on palpation soft, elastic, with distinct pulsation and thrill.

Circulatory system.—Heart apex beat in normal situation, powerful; sounds clear; second pulmonary tone accentuated; carotid and abdominal aorta throbbing; pulse full, regular, compressible, and 140 per min. when patient was standing.

The skin showed pronounced dermatography, thus, when the patient's initials were traced on her chest with the end of a percussion hammer, in a few moments they appeared as distinct red characters. Hands hot and moist. No pigmentation or rash was seen on body.

Reflexes superficial and deep, present; no œdema of eyelids or feet; marked tremor of arms and hands.—Maria's symptom.

The treatment ordered was rest and quietness, a tonic and galvanism to cervical sympathetic. Electricity has quite beneficial in these cases at this clinic. The galvano-faradic current is not used, but simply galvanic.

In another case of this kind undergoing treatment, the tachy cardia, palpitation of heart with throbbing arteries, tremor, flushing of surface, and excessive perspiration, were the most marked symptoms, there being very insignificant prominence of eyeballs, and no thyroid tumor. In fact the nature of the disease could easily have been overlooked on superficial examination.

INGERSOL OLMSTED.

Berlin, 9th May, 1895.

ALLEGED CURE FOR LUPUS AND CONSUMPTION.—Consul-General Key, of Berlin, has sent to the State Department the following communication, which we print in part: "The coming Medical Congress in Munich is likely to give no little attention to a discovery made by Dr. Louis Waldstein, of New York, which is announced this week in the *Berliner klinische Wochenschrift. Med. Rec.*, the most serious and trustworthy medical weekly in Germany. Congress will have much to say about the Loeffler and Behring heilserum for the cure of diphtheria, and as Dr. Waldstein's discovery in a certain sense completes the heilserum, acting favorably on patients whom the serum does not cure, the new idea of the American can hardly fail. . . . I have thought that such a discovery, even if it cured the obscure and hitherto incurable disease of the skin called lupus, ought to be known at once in America, where it may save lives and shorten much affliction. During his earlier studies in New York, Dr. Waldstein had his attention called to pilocarpine. This alkaloid acts powerfully on the salivary and the sweat glands. At the time Dr. Waldstein was trying to discover the effects of the stimulation of various glands, like the thyroid, lymphatic, etc., he made the discovery that pilocarpine exercised the most surprising effects on the lymphatic glands and the entire system, to which we ascribe the elaboration of the lymph, or white corpuscles of the blood. Coming to Berlin, he passed the last four months at the Urban Hospital. It was here that he proved to himself the truth of his reasoning on the relations of the lymphatic system to diseases like lupus, as well as tuberculosis in other forms, to diphtheria, and other diseases. He has satisfied himself that pilocarpine, when injected into the veins, forms a trustworthy test for the presence of tubercular disease in man and in animals, giving the physician the strongest possible certainty in the diagnosis of obscure cases. A striking instance of the truth of his reasoning is the case of a man, twenty-four years old, a Berliner, who has had a lupus on the back of his right hand for twenty-two years and was thought incurable. Relief was immediate after the first injection, and the hand is almost healed. This cure has created a sensation among medical men, and some hope that the road to the cure of cancer also has been entered."

HOSPITAL ABUSE IN FRANCE.—This is, evidently, becoming a very serious professional matter across the Channel, as it has become in this country, and we understand that a considerable section of the profession, in France, is supporting a movement in order to prevent still further abuse, *Hosp. Gaz.* At important meetings, recently held, it has been decided that charitable institutions, having been created for the necessitous and poverty-stricken, should be closed against those who are spuriously indigent, and that it is necessary that an effectual control should be established over these institutions, the present system being illusory, seeing that it permits people in easy circumstances to obtain gratuitous hospital attention. It is, therefore, proposed that a law should be passed laying down the fixed rule that hospitals are for the indigent alone, and that any person, therefore, who is able to defray the cost of his medical treatment, and who yet applies for relief at charitable institutions, shall be deemed guilty of misdemeanor, and, unless the case be one of urgency, shall, on conviction, be adjudged to repay his expenses to the hospital, and a fine not exceeding fifteen francs in addition. In cases of frequent infractions of the law, the offender may also be condemned to several days' imprisonment. We are not sufficiently advanced in this country for such legislation against English hospitals to have any prospect of success, but it is, at any rate, interesting to observe that our French contemporaries are suffering in precisely the same manner as ourselves from the unfair competition of charitable institutions; while it should be, at any rate, stimulating to medical practitioners, in these islands, that their brethren across the channel are sufficiently united in defence of their own interests, and sufficiently determined to protect them, to propose to apply to Parliament for such measures of reform. We are beginning to move in this country in the same direction of self-defence, and it is to be hoped that in time the crying scandals of the powerlessness and disunion of our profession will be removed.

THE SAMARITAN HOSPITAL FOR WOMEN, MONTREAL.—A new hospital for women, with the above name, was opened by Her Excellency the Countess of Aberdeen, wife of the Governor General of Canada, on the 17th of January, 1895. It is non-

sectarian, and supported entirely by voluntary contributions, of which latter enough were handed in during the first month to carry on the work during a whole year. It is the only special hospital for diseases of women in Montreal, and will be moulded on the pattern of the celebrated New York State Women's Hospital in New York City. It is managed by a board of thirty of the principal ladies of the city, assisted by an advisory board of three laymen and three physicians. The staff consists of Sir James Grant, M.D., K.C.M.G., consulting physician; Wm. H. Hingston, M.D., LL.D., consulting surgeon; A. Laphorn Smith, B.A., M.D., M.R.C.S. England, surgeon-in-chief; H. Lionel Reddy, C.M., M.D., surgeon; S. F. Wilson, C.M., M.D., assistant surgeon and registrar; Dr. Sylvester, assistant surgeon, and Dr. Letellier de St. Just, assistant surgeon. An anæsthetist and a pathologist will be appointed shortly. The outdoor service is attended to by the assistant surgeons from 4 to 5 p.m. every day, at which hour the surgeon-in-chief makes his daily visit, and the most urgent cases are admitted. The hospital is absolutely free to women who are poor and sick, and who are residents of the city. Patients from outside the city will be admitted on payment of a nominal charge. The operation days are Thursdays and Fridays at 10.30 a.m., when physicians who have not been attending infectious diseases will receive a hearty welcome. The hospital is situated in the choicest and healthiest part of the city, 1000 Dorchester street, near Mackay street, and may be reached by the St. Catherine and St. Antoine street cars, which each pass within one block of the door.

THE ANTIQUITY OF MAN.—In the current number of the *Nineteenth Century, Lancet*, Prof. Prestwich adduces some new facts in support of the great antiquity of man on this planet. The history of opinion on this subject is curious. So recently as 1847 the Geological Society declined to publish a paper which aimed at showing that man co-existed with the extinct quaternary mammalia. Then came the researches of M. Boucher de Perthes, near Abbeville, which proved the existence of human weapons in the quaternary beds containing the fossils of the mammoth, woolly rhinoceros, hyæna, reindeer, etc. Then Professor Prestwich, Sir John Evans, and others showed

that undoubted worked flints were present in shingle containing mammalian remains, and so men of science became satisfied that palæolithic man existed in post-glacial times. Here the question rested for a time, but in the course of time inquiry was naturally directed to the problem whether the relics met with in the valley drifts were the work of the earliest race of men. "The workmanship on some specimens of the palæolithic implements was not very much inferior to that of neolithic times, and what was known of the human frame indicated but slight, if any, inferiority in its physical structure to that of modern man. All led one to suppose that ruder ancestors preceded palæolithic man." The most important recent discoveries have been on the North Downs in Kent. Here implements of various kinds—scrapers, drills, hand-picks, roughly chipped flints, etc.—have been found, and Professor Prestwich is disposed to assign a very high antiquity to them. These implements appear to have been used for hammering, for breaking bones, for scraping skins, bones, and sticks, and for chipping and trimming other stones for use. He believes that their age must be assigned to some time previously to, or contemporaneously with, some part of the glacial period. According to Professor Prestwich the appearance of palæolithic man—that is to say, the man of the valley drifts—does not extend probably beyond a distance of about 20,000 to 30,000 years, and his disappearance at about from 10,000 to 12,000 years, from our own time. Other authorities, such as Croll, have assigned a much more remote period; but while absolute agreement on a matter so difficult is not to be expected, it is evident that geologists are more and more becoming of opinion that a very high antiquity of man is practically certain.

THE INFLUENCE OF PREGNANCY UPON DENTAL CARIES.—As a result of a study of the teeth during pregnancy, Peterson, *Dental Cosmos; Med. News*, arrives at the conclusion that dental caries is peculiarly liable to occur at this time. He defines such caries as a condition characterized by molecular disintegration of the normal constituents of the teeth as a result of the action of certain pathogenic micro-organisms which produce lactic acid, which, in turn, decalcifies the enamel and exposes the dentine to the attack of the

bacteria. It is believed to be impossible that lime-salts are abstracted from the teeth to supply the needs of the growing foetus. More than enough phosphates are ingested to supply the needs of both mother and child; hence the maternal teeth do not suffer from lack of nutrition. During gestation osteophytes are found, showing an excess of lime-salts in the system. The true explanation must be looked for in some change in the oral secretions, which thereby furnish a more favorable soil for the development of the micro-organisms. There is evidence to prove that the acidity of the saliva is increased during pregnancy, probably through changes in the blood, whereby its alkalinity is diminished. The analogy between this and the lithemic condition is striking. Vomiting of pregnancy, while it may to some extent aid, cannot be considered a potent factor in the production of caries. Neglect of the teeth cannot be proved to be more prevalent during pregnancy than at other times, and, therefore, should not be considered among the causes of caries.

THE EFFECT OF THE LOCAL APPLICATION OF GUAIACOL IN THE REDUCTION OF THE TEMPERATURE IN TYPHOID FEVER.—McCormick has written a paper, *Med. News*, on this subject, and in summing up the article, says he is convinced of the following facts:

1. That guaiacol when locally applied is certain to reduce temperature.
2. That with the care that a physician should always use in the administration of drugs, it is absolutely safe.
3. That chills will not occur if the temperature is not reduced below 100° F.
4. That no deleterious effect is produced upon any of the organs by its use.
5. That it is easy to apply, and can be used by any one competent to nurse a typhoid fever case.
6. There are no depressing effects following an intelligent use of the drug.
7. That by continued use the dose can be gradually lessened.
8. That it is far superior to the cold bath; that it can be used by one person; that no appliances are necessary for its use that are not obtainable in every home; that it is much more pleasant to the patient; that it is fully as effective; that

patients are not subjected to the danger of moving, and they offer no resistance to its use.

McCormick has thoroughly tried the bath and cold packs, and knows that they have proved very efficacious in many cases, but with his experience with guaiacol has no desire to return to either of them.

LIGATURE OF THE SPERMATIC CORD IN THE TREATMENT OF HYPERTROPHY OF THE PROSTATE GLAND.—In a paper read before the Philadelphia Academy of Surgery in November, 1894, Ewing Mears held, *Br. Med. Jour.*, that to obliterate the function of the generative apparatus would be a rational method of treatment in ordinary forms of prostatic hypertrophy. Without doubt, he stated, castration would prove effectual in the production of atrophy; but to this operation patients would naturally refuse to submit unless in advanced stages of bladder disease resulting from prostatic obstruction. Ligature of the vas deferens was suggested as an operation which would probably be as efficacious as castration and be more readily acceptable. The author has seen the report of one case in which this operation had been performed with a successful result. The gradual disappearance of the sexual function, the author pointed out, would not be so liable to disturb the mental condition of the patient if the testes were preserved. In every case the patient should be informed of the character of the operation and what is intended to be accomplished by it. The author regards it as the duty of the surgeon to urge very earnestly the performance of any operation which will be efficacious in terminating the horrible sufferings of those suffering from the results of prostatic obstruction.

WHEN TO OPEN THE MASTOID.—In an interesting article in the *Internat. Jour. of Med.*, Dr. Bishop concludes that the mastoid should be opened:

1. When there is an acute inflammation of the bone that resists palliative treatment.
2. When repeated swellings and abscesses occur.
3. When there is bulging of the posterior and superior wall of the meatus with suppuration of the middle ear.
4. When there is a fistula.

5. When there are severe pains in the same side of the head as the diseased ear, which resist all other treatment.

6. When a fever otorrhœa cannot be cured by any other means.

Gentlemen, I have dwelt upon the details of these operations for the reason that I have always been impressed with the fact that the most brilliant success followed the closest attention to the little things. If the minute details of an operation are faithfully observed, the conspicuous points will not escape us ; but if the gaze is fixed upon the loftiest barren peaks of a mountain range, the far more fertile foot-hills may be overlooked.

THE DIETETIC TREATMENT OF PHTHISIS.—The following suggestions by Dr. Henry P. Loomis, *The Practitioner*, are worthy of careful consideration :

1. Never take cough mixtures if they can possibly be avoided.

2. Food should be taken at least six times in the twenty-four hours ; light repasts between the meals and on retiring.

3. Never eat when suffering from bodily or mental fatigue or nervous excitement.

4. Take a nap, or at least lie down for twenty minutes, before the midday and evening meal.

5. Take only a small amount of fluid with the meals.

6. The starches and sugars should be avoided ; also indigestible articles of diet.

7. As far as possible, each meal should consist of articles requiring about the same time to digest.

8. Only eat so much as can be easily digested in the time allowed.

9. As long as possible, systematic exercise should be taken to favor assimilation and excretion ; when this is impossible, massage or passive exercise should be undergone.

10. The food must be nicely prepared and daintily served—made inviting in every way.

TREATMENT OF ALCOHOLISM BY STRYCHNIA NITRATE.—In *Gaillard's Med. Jour.*, Breed is quoted as stating, in the *Med. News*, that we have in this drug a remedy that overcomes the desires, with the least effort on the part of the inebriate ; a remedy that overcomes the gnawing at the

epigastrium, that tones up the nervous system and overcomes mental disturbances, that brings back the appetite, and more than all else, exerting a moral influence upon the patient, supplying that which before was lost, viz. : hope, enthusiasm, and self-confidence, a bright, youthful expression of the eye, in the stead of the sneaking, apologetic air which is the external badge of moral depravity.

THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.—This Association holds a meeting in Toronto, commencing September 3rd, 1895. It has a standing committee on electrodes, which is endeavoring to secure before that date the universal adoption of uniform connections, a standard gauge of screw throughout construction, and efficient, durable, simple and interchangeable electrodes. Circulars have been sent to every manufacturer of electro-therapeutic apparatus, whose name is known.

We wish the Association every success in this much-needed improvement in the appliances of a science so rapidly coming to the front in popularity and usefulness, as electro-therapeutics.

BLACK EYE.—There is nothing to compare with the tincture or strong infusion of capsicum annum mixed with an equal bulk of mucilage or gum arabic and with the addition of a few drops of glycerin. This should be painted all over the bruised surface with a camel's hair pencil and allowed to dry on, a second or third coating being applied as soon as the first is dry. If done as soon as the injury is inflicted, this treatment will invariably prevent blackening of the bruised tissue. The same remedy has no equal in rheumatic, sore or stiff neck.

TYMPANITES.—*Med. News* :

R—Naphthol,

Magnesii carbon.

Carb. lig., āā . gr. lxxv.

Ol. menth. pip., gtt. x.—M.

Et div. in chart xv.

Sig.—One powder when required.

EPIDEMIC OF ACUTE POLIOMYELITIS.—The cases included in the report had been under the care of a number of physicians, and different diagnoses had been made in the different cases, *Med. News*. It is evident, however, by a study of the group,

that they were all related. The patients presented the usual symptoms of acute anterior poliomyelitis, and in addition horses, dogs, and fowls in the vicinity of the epidemic died from the disease, as was shown by *post-mortem* examination.

MENORRHAGIA.—(*Rokitansky*):

R—Extracti ergotæ, ʒ iss.
 Acidi salicylic, gr. viij.
 Aquæ cinnamomi, ʒ vj.
 Syr. cort. aurant. amar.,
 Spts. juniper, āā ʒ iss.—M.

Sig.—One teaspoonful three times a day.

FOR CHRONIC ECZEMA OF THE FACE.—This is a modification of Hebra's ointment, *N. Y. Med. Abs.* Compound stearate of zinc, and ichthyol, 20 parts.
 Acid salicylic, 5 "
 Glycerin, 10 "
 Albolene (white) 50 "

To be smeared over the affected part.

DR. BERTRAM SPENCER, of Bloor St., Toronto, has been appointed Associate Coroner for the County of York.

Books and Pamphlets.

MANUAL OF CHEMISTRY. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons, Baltimore, etc., etc. Fifth edition, revised, with forty-four illustrations and eight colored plates. Philadelphia: Lea Brothers & Co. Toronto: Carveth & Co. 1885.

The fifth edition of this popular work is a considerable improvement on preceding editions. The book is one for the student, and the author has certainly spared no pains or labor in the bringing it up to date; the advance of chemical science as well as the new Pharmacopœia making many changes and alterations necessary. The division of the book into seven parts is as before. A number of experiments have been added as an aid to laboratory work, which may be readily performed by students at a comparatively small cost. The decimal system has been adhered to in all weights and measures, and Centigrade with Fahrenheit in temperature. The work is an excellent one for

students and teachers of junior classes in chemistry.

THERAPEUTICS, ITS PRINCIPLES AND PRACTICE. By H. C. Wood, M.D., LL.D., Professor of Materia Medica and Therapeutics in the University of Pennsylvania. Philadelphia: J. B. Lippincott Company. Toronto: Carveth & Co.

Dr. Wood's work is so well known to ninety-nine-hundredths of the medical men and students of the United States and Canada that we need only mention that the edition has been thoroughly adapted to the new Pharmacopœia, and that such new remedies as seemed necessary to the author have been thoroughly discussed. The non-official remedies in use have been duly considered; effete material has been carefully eliminated, and the numerous discoveries of recent years have been incorporated. Dr. Wood's book was a lamp to our feet years ago, in the then weary maze of *Materia Medica*, and we are sure the present volume will come as a boon to many a student now struggling with the same difficulties we then encountered.

A MANUAL OF MODERN SURGERY, GENERAL AND OPERATION. By John Chalmers Da Costa, M.D., Demonstrator of Surgery, Jefferson Medical College, Philadelphia; Chief Assistant Surgeon, Jefferson Medical College Hospital, etc. Philadelphia: W. B. Saunders. Toronto: Carveth & Co.

On looking over the many huge volumes of surgery in our libraries, and on reading any particular branch of the subject, we find that we must peruse many pages before we arrive at our desired point of information, the labor being oftentimes tedious, particularly if one be busy and have not much time at his disposal. In lieu of this, the above named volume meets a long-felt want, for it is a time and labor saving one, being scarcely eight hundred pages in all, and not weighty, so that one can easily carry it with him when desired. It contains all the essentials of surgery, devotes a part to Bacteriology, and a large space to Fractures, Dislocations and Amputations. Orthopedic Surgery is given a fair discussion, a special lecture is given on Diseases and Injuries of the Rectum and Anus, Anæsthesia and Anæsthetics, and Bandaging. In all the book is well worth its cost and no one would regret having given it a careful study.