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THE SURGICAL TREATMENT OF COMPLETE DESCENT OF THE UTERUS. *

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COMPLETE descent of the uterus, descent to the third degree, which may be defined as that deviation in which a part or the whole of the uterus is outside of the vulva, is always associated with extensive injury to the pelvic fascia, the pelvic connective tissue, the muscles of the vaginal outlet, the perineum and the vaginal walls: in fact, these injuries of the pelvic floor constitute the essential lesion, the mal-location of the uterus being an incidental factor.

The uterus in its normal position lies across the pelvis, the fundus pointing in a slightly upward, anterior direction, and the external is in a slightly downward, posterior direction. The long axis of the uterus, in this normal direction, makes an acute angle with the long axis of the vagina which extends from the vulva upward and backward in the direction of the hollow of the sacrum. Generally speaking, mobile anteversion, with some degree of anteflexion, is the normal position of the uterus; at any rate, the uterus, in its normal range of movements, does not deviate, unless temporarily, beyond the limits of a certain normal anteversion and anteflexion.

In the etiology and treatment of descent, the practical significance of this acute angle between the axis of the uterus and vagina is very great, because the uterus in the act of prolapse must descend through the vaginal canal in the direction of that canal, that is, a coincidence of the two axes is a prerequisite of descent. Now, if the essential condition of descent is a coincidence of the axes, it follows that one factor, at least, in the treatment of descent must be to restore the normal angle between the axes.

In labor the anterior wall of the vagina is so depressed, stretched and shortened by the advancing child that, during and after the second stage, the anterior lip of the cervix uteri may be seen behind the urethra. This location of the cervix, so close to the anterior wall of the pelvis, necessarily involves great stretching of the utero-sacral supports which normally hold the cervix uteri and, together with it, the upper extremity of

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the vagina close to the hollow of the sacrum. This function of the post-uterine ligaments having been temporarily impaired, the upper extremity of the vagina is displaced forward so that the uterus, having sufficient space between itself and the sacrum, instead of maintaining its normal anterior position, may fall backward into retroversion and, thereby, bring its own axis into line with the direction of the vagina. Frequently, the change in the direction of the vagina, from the normal oblique to the abnormal vertical, is still further increased by injury to the vaginal outlet. The perineum may be torn in any direction and, what is more serious, it may be torn away from its public attachments, and, in this way, may be displaced backwards toward the tip of the coccyx. In fact such displacement is so common, as the result of injuries to the perineum, as to suggest the propriety of a change in terminology from laceration to displacement of the perineum. The upward extremity of the vagina being displaced forward, the lower extremity backward, and the direction of the over-stretched, dilated vagina, now being vertical, the heavy uterus, having its long axis in the same vertical direction, has all the condition favorable to progressive descent.

If the puerperium progress favorably with prompt involution of the pelvic organs, and if the relaxed vesico-vaginal wall and other parts of the pelvic floor, especially the utero-sacral supports and the broad and round ligaments, recover their normal tone, then the whole pelvic floor, including the uterus, resumes its normal relations. But if the enlarged, heavy uterus remains in the long axis of the vagina, especially if the fundus uteri be incarcerated under the promontory of the sacrum with the sacral supports stretched so much and for so long a time that they cannot recover their contractile power, and normal involution of the pelvic organs be arrested, then descent may not only persist but may progress with constantly increasing cystocele and rectocele until the entire uterus has extruded itself through the vulva.

It is most important to remember that complete prolapse of the uterus is only an incident to prolapse of the pelvic floor. The whole mechanism is that of hernia and the condition is hernia; for the extruded hernial mass drags after it a peritoneal sac which, hernia-like, contains small intestine. This sac forces its way to the pelvic outlet and extrudes through the vulva, having the inverted vagina for a covering.

The prolapsing uterus may be related to the vaginal walls in either one of two ways: The prolapsing vaginal walls may drag the uterus down after it; or the uterus itself may descend along the vaginal canal by force of its own weight and drag with it the re-duplicated vaginal walls. Extreme prolapse of the uterus, the organ being covered thus by reflected vaginal walls, has given rise to considerable confusion in pathology, and by many standard authors has been wrongly called hypertrophic elonga-

tion of the cervix uteri. In a given case, the possibility of infra-vaginal elongation may be settled easily by placing the patient in the knee-breast position, when the uterus of its own weight will fall towards the diaphragm and the reduplicated vaginal walls will unfold, utero-vaginal attachment appearing in the normal place, instead of being as it seemed high up on the walls of the uterus. Those cases in which reduplication of the vaginal walls does not almost entirely explain the apparent great elongation of the cervix, are rare exceptions. When formerly these mechanical conditions were attributed to hypertrophic enlargement of the uterus itself and were regarded as adequate indications for the removal of the cervix, the surgeon in the attempt to remove what he supposed was the elongated cervix uteri sometimes invaded the bladder anteriorly and the rectum posteriorly.

Surgical Treatment. In passing, it may be well to mention for the purpose of condemning it an operation perhaps more frequently performed than any other for the cure of complete descent, namely, the operation which generally passes under the name of Stoltz. This operation is designed to narrow the vagina and thus to maintain the uterus somewhere in the pelvis above the constriction. Operations of this class usually consist of the removal of an elliptical piece from the anterior or posterior vaginal wall, or from both, and of closing the exposed surfaces by means of a purse-string suture. No effort is made to restore the normal axis of the uterus and vagina. The whole purpose is to make the vagina so narrow that the uterus cannot pass through it. Such operations generally fail because they leave the uterus and vagina in the same axis, and because the restricted vagina cannot resist the downward force of the uterus which almost invariably dilates the vagina a second time, forcing its way through with reproduction of the hernia. Moreover, the operation always does permanent harm because it shortens the vagina thereby making it draw the cervix away from the sacrum towards the pubes, so that the body of the uterus may have room to fall backward to the position of incurable retroversion. We may, without discussion perhaps, throw out all operations belonging to the Stoltz group. The same may be said of all plastic operations in which the vaginal surfaces are exposed by superficial denudation and brought together by sutures.

After a prolonged trial of the principle surgical procedures which have been made use of for the cure of complete descent, I am prepared to lay down certain essential principles as follows:—

An efficient operation on the vaginal walls should have for its object, not the narrowing of the vagina, but the restoring of the normal direction of it with a double purpose so that (a) the upper extremity, together with the cervix uteri, shall be in its normal location within an inch of the second and third sacral vertebrae, just where the utero-sacral liga-

ments would hold it if their normal tonicity and integrity could be restored; and so that (b) the lower extremity of the vagina shall be brought forward against the pubes. The fulfilment of these two indications will restore the normal obliquity of the vagina, and will hold the cervix uteri so far back towards the sacrum that the corpus uteri must be directed forward in its normal anterior position of mobile equilibrium. With these conditions, the uterus, being at an acute angle with the vagina and having little space posteriorly, cannot retrovert and turn the necessary corner which would permit it to prolapse in the direction of the vaginal outlet. In order to accomplish this, two things usually are necessary:—

1. *Excision of the Cystocele or Anterior Colporrhaphy.* The plastic operations performed on the anterior and lateral walls of the vagina by Sims, Emmet, myself and others, which have consisted of superficial denudation and reefing of the anterior or lateral walls of the vagina, have been only partially successful, first, because they did not adequately force the cervix uteri into the hollow of the sacrum; second because efficiency requires deeper work than superficial denudation can accomplish, and third, because these operations did not utilize the broad ligaments sufficiently for support.

The above principles, emphasized by Reynolds in a recent paper, have lead me to modify my own operation materially. Complete prolapse, being hernia, should be treated according to the established principles of herniotomy by reducing it and then excising the sac in such a way as to expose strong fascial edges which should be firmly united by sutures. The absurdity of treating any other hernia by superficial denudation and reefing or tucking in the surfaces by sewing them together must be apparent to any one. In order to indicate the part which the broad ligaments must have in a correct operation, it is only necessary to observe the fact that vaginal hysterectomy commonly results in holding up the pelvic floor and with it the rectum, vagina and bladder, because in this operation the broad ligaments are usually fixed to the vaginal wound. But why should not the same result be aimed at by similar means even though the uterus is not removed? The operation of Anterior Colporrhaphy which I would urge is performed as follows:—

First Step. Split the antero-vaginal wall, that is the vaginal plate of the vesico-vaginal septum, by means of scissors, from the cervix uteri to the neck of the bladder, then to strip off the vaginal from the vesical layer of the vesico-vaginal wall, cutting away the redundant part of the vaginal plate.

Second Step. The redundant part of the vaginal wall having been removed, extend the incisions and remove the mucous and submucous structures to either side of the uterus, being sure to reach the fascial

structures which are in direct connection with the lower margins of the broad ligaments, or what is better, to reach the ligaments themselves.

Third Step. Introduce silk worm gut or chromic catgut sutures so that when tied they will draw the loose vaginal tissues and the broad ligament structures, on either side of the cervix uteri, in front of the cervix, so as to force the cervix back into the hollow of the sacrum.

Fourth Step. The sutures introduced in the third step having been tied, additional interrupted sutures are introduced to unite the vaginal wound from side to side. This suturing is continued to a point near the urethra, when most of the redundant vaginal wall will have been taken up. There will usually remain, however, the lower portion of the cystocele and, perhaps, some urethrocele, which cannot be disposed of by bringing the margins of the wound together from side to side, but can be taken up by uniting the remaining part of the wound in a transverse direction.

Even at the risk of prolixity I repeat that it is essential to remove the entire thickness of the vaginal layer of the vesico-vaginal septum.

Contraindications to Elytrorrhaphy. Elytrorrhaphy is usually unnecessary and therefore contraindicated in descent of the first degree. The special province of the operation is in complete prolapse or procidentia when associated with cystocele. The operation further is contraindicated by tumors and adhesions which render replacement and retention impossible, and in diseases of the uterus or its appendages which demand their removal. When such contraindications do not exist, elytrorrhaphy and perineorrhaphy in a majority of cases are quite as effective and, therefore, to be preferred to the more dangerous and mutilating operations of hysterectomy.

2. *Perineorrhaphy and Posterior Colporrhaphy.* As already stated, it is most important to appreciate the fact that, in nearly every case of procidentia, the lower extremity of the vagina is displaced backward. This is consequent upon subinvolution of the pelvic floor, and especially upon subinvolution or rupture of the perineum, or of some other portion of the vaginal outlet. Unless, therefore, the posterior wall of the vagina and the perineum can be brought forward to their normal location under the pubes, so as to give support to the anterior vaginal wall, the latter will fall again, will drag the uterus after it, and the hernial protrusion (cystocele and prolapse) will be reproduced. The treatment, therefore, of procidentia must always include an adequate operation on the perineum, or, more comprehensively speaking, upon the posterior wall of the vaginal outlet. The operation must be performed so that it will carry the lower extremity of the vagina forward to the normal location close under the pubes; then, if the anterior colporrhaphy has been adequate and has carried the upper extremity backward, the whole vagina will have

its normal oblique direction, and its long axis will make the necessary acute angle to the long axis of the uterus.

Hysterectomy, if indicated, should be performed by the vaginal route. As an operation for procidentia, hysterectomy is open to the following comments: Procidentia, as already shown, is hernial descent, not merely of the uterus, but also of the vagina, bladder and rectum. Complete prolapse often occurs after the monopause, when the uterus has become an insignificant rudimentary organ and, therefore, may be removed easily. Cases are numerous in which, after vaginal hysterectomy, the pelvic floor and, with it, the vaginal walls have protruded again through the vulva—a result which may be expected unless the operation has included anchorage of the upper end of the vagina to its normal location by stitching the severed ends of the broad ligaments into the wound made by removal of the uterus. The indications for perincorrhaphy, as a supplement to hysterectomy, is the same as after anterior elytrorrhaphy.

As laid down in the foregoing paragraphs, the utilization of the broad ligaments is the essential factor in the treatment of complete procidentia. The operation of elytrorrhaphy above described unfortunately may either fail to bring the lower edges of the broad ligaments sufficiently in front of the uterus to enable them to hold up the uterus and vagina, or the ligaments having been stitched in front the stitches may not hold.

Consequently, in complete procidentia elytrorrhaphy even though well performed may fail, at least, this has been my experience in a number of cases. Therefore, the completely prolapsed uterus may have to be removed in order to secure the entire cut ends of the broad ligaments to the upper part of the vagina, and thereby give absolute support. As before stated, the operation should include the treatment of the hernial factor in the lesion, that is, removal of the redundant portion of the anterior vaginal wall. Generally speaking, the indications are somewhat as follows:—

1. Extreme cystocele not associated with the most extreme procidentia should be treated by anterior colporrhaphy and perineorrhaphy.

2. Cystocele associated with complete procidentia properly may be treated by hysterectomy, anterior colporrhaphy and perineorrhaphy. Anterior colporrhaphy in all cases.

3. Conditions intermediate between the two indicated above, and cases of very feeble or very aged women will call for special judgment whether hysterectomy be omitted or performed. It is, however, a fortunate fact that the completely prolapsed uterus, even in aged women, is removed usually with ease and with safety.

Other operations designed to decrease the weight of the uterus by removal of a part of it are of questionable value. Amputation of the cervix to lighten the weight of the uterus has been practised much for

the spurious hypertrophic elongation already described. Since this condition is rare, if not indeed unknown, it follows that it seldom will furnish an indication for amputation of the cervix uteri.

Alexander's operation and abdominal hysterorrhaphy belong to the surgical treatment of retroversion and retroflexion, not of procidentia. The object of those operations is to suspend the uterus from above. Hysterorrhaphy, which perhaps fulfils this indication better than shortening the round ligaments, may be indicated in cases of extreme relaxation of the uterine supports and greatly increased weight of the uterus. The results of it in complete procidentia, however, usually will not be permanent unless it is supplemented by adequate surgery in the vagina.

INTRA—ABDOMINAL ANASTOMOSIS.*

By A. GROVES, M.D., Medical Superintendent Royal Alexandra Hospital, Fergus, Ont.

MR. PRESIDENT and Members of the St. Thomas Medical Association,—When you kindly honored me with an invitation to address your honorable and learned body, I was in doubt as to what subject in particular I should take up; but in view of the great importance of anastomosis within the abdomen, it appeared that the discussion of this would not be inappropriate. It might be permitted me to say that I shall not aim at giving a compilation of what is found in text-books, but rather an account founded upon our own work with a description of the methods we employ.

Taking up first, cases of cancer of the pylorus, if they have gone beyond the stage when a resection can be done,—and too often this is the unfortunate state of affairs,—then an anastomosis should be made.

In doing this operation, I make an incision either in the median line or to the right of and parallel to it through the sheath of the rectus but not splitting the muscle, which is drawn outwards. Having examined the stomach and decided upon the point at which the anastomosis is to be made, a loop of jejunum is drawn up and fastened to the stomach by a line of Lembert sutures, then a McGraw ligature is passed and tied as tightly as possible and the Lembert suture continued so as to completely close the site of the anastomosis. In order to prevent the possibility of a vicious circle, the two limbs of jejunum are joined by a McGraw ligature and Lembert suture.

The Point I usually choose to make the anastomosis is the lowest part of the lower border of the stomach anteriorly, in order to secure thorough drainage; this point is comparatively near the pylorus, the

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place where nature intended the stomach to empty itself and it is usually good surgery to keep as close to Nature as possible.

Instead of using the elastic ligature as recommended by McGraw, I have been using strong silk ligatures with perfect results. There is no doubt a silk ligature can be drawn tightly enough to strangulate the tissues and that is all that is required. Nature proceeds to remove the crushed stomach and bowel wall and an opening results. Should there be any doubt as to the sufficiency of the crushing power, two ligatures may be used, each embracing one half the tissue to be dealt with, and, by so doing, an opening will result sooner which is often a matter of importance. Should it be feared that an opening made in the manner described is not of sufficient size, a square or triangular fenestrum can be obtained by putting in ligatures so as to surround and cut off the blood supply of as such tissue as may be judged sufficient, but usually a single ligature is all that is required.

Care is necessary in selecting the knuckle of jejunum which is to be applied to the stomach wall, and it should never be chosen hap-hazard; for cases have occurred where the lower part of the ileum within a short distance of the ileocæcal valve has been attached to the stomach and the whole small intestine short circuited. The proper portion of the jejunum to be attached is about 18 or 20 inches from the duodenum.

Since the advent of the McGraw ligature I no longer use the Murphy button, Senn's plates, or any other appliance or method, the ligature being superior in every respect save only that an immediate opening is not secured; but, on the other hand, no foreign substance that can cause future trouble is left in the body; no viscus is opened and, therefore, the danger of sepsis is greatly lessened and the operation can be done more rapidly.

I am inclined to think that it is immaterial whether the ligature is passed longitudinally or transversely in the bowel, but it is better to join the limbs by a lateral anastomosis.

As this operation is a type of all intra-abdominal work, in so far as general technique is concerned, I might here indicate the methods we follow: I use no antiseptic solutions of any kind, unless sterile saline be so designated; because I believe that chemical antiseptics are injurious to normal tissues, especially when used in sufficient strength to be of any value as germicides. Tissues injured by corrosive poisons are not in a condition to resist the invasion of pathogenic germs, nor are they in a state favorable for the normal processes of repair. In preparing my hands, I use soap with hot running water and at least six sterile brushes, but do not use any of the so-called antiseptics and always devote forty or fifty minutes to the work. I insist upon my assistants carrying out the same cleansing process, each finger and especially each nail being

separately brushed and scrubbed. The washing of the hands in basins, even if the water is changed several times, is not by any means as certain or as satisfactory as a stream running over the hands and carrying away impurities. The cleansing of the hands cannot be too thoroughly done and often is only half accomplished. A surgeon, of all men, should be careful of his hands.

During the operation sterile normal saline alone is used. That this is sufficient is fairly well proven by the fact that we have had many hundreds of operations without one case of sepsis, if the parts were not infected to begin with. Bringing powerfully poisonous and irritant substances, like bichloride of mercury, for instance, into contact with a clean wound is injurious and unnecessary. The idea aimed at is to keep the wound free from germs, poisons and foreign matter generally.

For ligatures and sutures, silk is invariably employed and meets every indication; it can be made absolutely sterile very rapidly, is easily manipulated and can always be depended upon.

In making openings through the abdominal wall, muscular tissues are separated and, if possible, not cut and the nerve-supply of parts interfered with as little as possible.

The wound is put together layer by layer, for in no other way can the natural relationship of parts be secured. Good surgery requires that the abdominal wall should be left as nearly as possible in its normal condition, and no one will pretend that through and through suturing will produce such a result. It is claimed by some that by this means the wound can be closed more rapidly, but even if that were true, which it is not, speed does not justify bad methods.

When each layer of tissue is brought together neatly, there are no cavities left in which blood can collect as so often happens in mass suturing.

Anyone who compares the accurate apposition secured in a wound where tissues are joined carefully as Nature intended, with one where clumsy, inaccurate, through and through suturing is done, will be convinced that theoretically and practically the former is the only method that should be employed. A surgeon who has grasped the true principle will never, in my opinion, use the slovenly through and through method.

When accurate apposition of layer to layer is secured, the fact that fascial integrity is restored prevents the possibility of hernia. A hernia, following an ordinary laparotomy, is a very unfortunate thing for the patient and is not creditable to the surgeon; and, yet, that is what too often results from the unscientific through and through sutures.

I once knew of a case where a practitioner, I had almost said a surgeon, removed an ovarian tumor, closing the abdominal wall by through

and through sutures; a ventral hernia resulted and some months after, when she was straining at stool, the thin cicatrix gave way, her bowels gushed forth, and she died a victim of a bad method.

It is possible that in competent hands even a bad method, may be followed by a fairly good result, Providence being on the side of the patient, and such a catastrophe as the above avoided; but no one is justified in exposing his patient to the risk, when by following the normal anatomical method all danger is removed.

Regarding the question of speed it seems to me that operators should accustom themselves to rapid work, for every minute increases the danger. The man who completes an intra-abdominal anastomosis, including the closure of the abdominal wound, in twenty or thirty minutes or less, will have better results than he who takes an hour or two for the same work. I distinguish between hurried work and rapid, the latter is to be aimed at, the former avoided.

In dressing the wound after the sutures are in, no powdering, dusting or medicating of any kind is done. Plain sterile gauze with absorbent cotton is all that is used. If the bacteriologist finds his culture medium kept sterile by a plug of absorbent cotton, the surgeon need not fear to trust the same means of protecting his wounds from infection.

I would advise an exploratory laparotomy in every case of pyloric cancer, unless there were some special reason why it should not be done, and this exploration should be performed early, usually before a tumor can be made out. If the disease cannot be removed, a gastro-enterostomy is imperatively indicated. On account of the free drainage the stomach can empty itself into the bowel, thereby the vomiting is relieved, and the patient will gain in weight in many cases to a marked extent. The disease in the pylorus being no longer irritated by the stomach contents passing over it, ceases to progress so rapidly, so that the patient is not only relieved but also his life prolonged.

Again, in cases of chronic ulcer of the stomach and in many cases of acute ulcer, an early anastomosis is indicated and I think the importance of this cannot be too strongly urged. If a patient has chronic dyspepsia, even if a tender spot cannot be made out, whether vomiting of blood has occurred or not, the propriety of an operation should be considered. It is often said that to advise an operation is a serious thing, but it is much more serious not to advise one, where a life may be lost while a physician hesitates.

It is sometimes forgotten that dyspepsia is only a symptom and not a disease, that many cases can be cured by a simple and comparatively safe operation, and that patients should no more be allowed to suffer from such conditions than they were allowed in old times to suffer from chronically diseased appendices. There are few men now who would

not advise the immediate removal of a diseased appendix the moment he diagnosed the condition, and the time is fast approaching when the rule for immediate operation will be applied to chronic disease of the stomach. We all see patients to whom every imaginable tonic has been given, the stomach washed out, all kinds of dieting tried without effect, and very often these patients are said to be neurasthenic to high degree, while the original and sole cause of all their trouble is a diseased stomach which is entirely curable by establishing free drainage.

Just here I might be permitted to protest against what I believe to be an error that is widespread, and is even taught by good authors and teachers. I mean the use of such terms as, "Functional neuroses of the stomach independent of organic disease." One of our leading authors says that diagnosis of this condition is often difficult and that, "Organic disease either of the stomach or nervous-system must be excluded."

To my mind there can be no functional diseases, either of the stomach or of any other organ. A function is nothing tangible, it is but an expression to convey the idea of what the work of an organ is and if the work is not done normally there is some definite cause, either in the organ itself or in some other part of the body. We may be unable to find the cause but it nevertheless exists.

In order to make the idea more clear it might be illustrated in this way. The function of a watch is to keep correct time, but if it did not do so and it were taken to a watchmaker, he would never be guilty of the absurdity of saying that the watch was in perfect condition and the fact of its not keeping time was a functional derangement.

So in the human body and especially in the stomach, there is a cause for the disturbance of function and the practitioner who thoroughly believes this will often find a cause in an unsuspected ulcer, a pyloric stenosis, a chronic gastritis or some other condition, which, if not curable without operation, may be cured by it.

Again the term neurasthenia like neuralgia is simply a euphemism for the fact that we do not know what the disease is and do not like to say so. How many of us dismiss cases which we do not understand with the assurance that they are neurasthenic or neuralgic, forgetful of the fact that both conditions depend upon a cause and are not of themselves diseases. Loose, in-exact expressions, such as these, have a paralyzing effect upon investigation, and many patients are doomed to drag out a miserable existence because physicians fail to think precisely, taking effects for causes, or appearing to believe an effect can exist without a cause. Especially is this true in conditions arising from eye-strain, which as a rule is not diagnosed.

Up to the time that McGraw devised the method of making anastomosis by means of a ligature, these operations were necessarily se-

rious; but now the element of danger is largely eliminated, and a vast field opened up for the relief of human suffering.

Again, in cases of dilated stomach with all its accompanying distress, when the usual treatment fails, a gastro-enterostomy will give immediate relief and accomplish permanent cure.

It is not only a much simpler operation than gastro-plication, but is founded upon sounder principles. Gastro-plication aims at removing the effect of disease by artificial means; but an anastomosis, by providing drainage, removes the cause of the disease and Nature gradually restores the stomach to its normal size and condition. After an operation of this kind, it is remarkable how the vomiting ceases and the catarrhal symptoms subside. The appetite returns and the patient is able to take any ordinary diet without discomfort.

In cases of displaced stomach, while it is true that shortening of the ligaments or fixation of the stomach is of great value, still even in these cases an anastomosis is sometimes necessary so great is the degree of dilatation. The great truth that especially needs to be urged is that, if the stomach can freely and easily empty itself into the bowel, it is placed in the best possible condition to return to its normal state and have its normal functions restored.

I do not think the so-called "Y" operation is the best in these cases. It is more difficult to do than anastomosis by ligature, on account of the bowel having to be cut in two and both the stomach and bowel opened; besides, the danger of infection is greatly increased, the operation is prolonged and there is always the possibility of defective closure of the openings. Other things being equal, the simpler of two operations should always be chosen, especially if it is safer.

cancer for instance, the lumen of the bowel is narrowed and, consequently, the passage of its contents interfered with. Here, if the diseased portion cannot be removed, the ideal means of giving relief is an anastomosis of the bowel above the obstruction with that below by the liga-

There is also a considerable number of cases where, on account of ture method.

Where there is occlusion of the bowel on account of its being fixed at an acute angle or from cicatricial contraction, a ligature passed into the bowel an inch or an inch and a half from the angle on its inner side, brought around over the spur and out of the bowel the same distance from the angle at which it entered, then tied tightly and the two limbs of bowel united by Lembert sutures so as to enclose the ligature, will be followed by complete relief.

Where an end to end anastomosis required to be made, the first essential is that the junction shall be absolutely impermeable to the contents of the bowel; next, the final result should leave the lumen of the

bowel unimpaired and with no stricture or tendency to stricture or narrowing; thirdly, the operator ought to be sure that it can be completed in a short time. If these indications can be met without leaving a foreign body other than the stitches in the bowel it would appear that the highest ideal would be reached.

I prefer to join the ends of the bowel by continuous suture passed through all the coats, so as to bring the peritoneal surfaces into apposition, and over that a continuous Lembert suture. Probably it takes a little longer than the putting in of a Murphy button, but the difference in time is very slight and the danger from the presence of a foreign body in the bowel is avoided. It is also to be remembered that the lumen of the bowel is narrowed when an anastomosis is made by means of the button. Mechanical appliances left in the intestine are always a source of danger and should never be used if the end to be attained can be reached without them.

I have tried a method in which a ring of mucous membrane is separated from the lower end of the cut bowel, the muscular and peritoneal coats being turned back like a cuff, then the upper end of the bowel is stitched by continuous suture to the cut mucous membrane of the distal bowel, the muscular and peritoneal cuff is turned up and stitched by the Lembert method to the invaginated proximal bowel. In this way an absolutely tight joining is assured. The greater the pressure within the bowel the tighter the joint becomes and the less the danger of leakage. The closure of the wound does not depend entirely upon accurate stitching but upon the apposition of the overlapping coats of bowel.

Neither of these methods requires the use of any special instruments or appliances which is a point of considerable value. The simple end to end anastomosis is the operation I prefer on account of the ease and rapidity with which it may be done and the good results following.

Such briefly are my views which, with your permission, I shall illustrate by reference to cases occurring in my regular practice, for after all no man's opinions in surgery are entitled to much weight unless founded upon actual experience. Interesting as an historical retrospect may be, important as a statistical record undoubtedly is and valuable as a paraphrase of the opinions of others can be made, I venture to hope that a practical paper without padding, while less brilliant, may be more beneficial.

The first case to which I shall refer was one of cancer of the stomach which had involved not only the pylorus and a large part of the stomach walls, but had also invaded the retro-peritoneal glands, so that a resection was out of the question. Here a gastro-jejunostomy was done but the two jejunal limbs were not anastomosed and, although the woman

recovered and lived many months, I believe the result would have been better had a jejunal anastomosis been done at the same time.

The next case was one where the patient was greatly wasted as a result of persistent vomiting and indigestion. For the relief of this she had taken large quantities of medicine and carried out every kind of treatment that had been advised, but without effect. Her condition continually got worse. The stomach was dilated and its function, as an organ of digestion, practically in abeyance. Here a pyloric stenosis was found to exist as a result of gastric ulcer and, in addition to a pyloroplasty, a gastro-jejunostomy was done by the McGraw method, but using silk in place of rubber ligatures. The two limbs of jejunum were also anastomosed. At the end of three weeks the patient was taking ordinary diet without the slightest discomfort and perfect recovery followed. Her dyspepsia is cured and, as she expressed herself, she would not know she had a stomach were it not that the cravings of hunger remind her.

The third case was one of traumatic stricture of the bowel which was held at an acute angle by adhesions. A ligature was passed into the bowel at the inner side of the inner angle as described above, tied tightly, covered by means of a Lembert suture and the patient has had no further trouble.

The fourth illustrative case was one of cancer of the ascending colon which was practically closed by the new growth so that nothing remained but operative measures. An artificial anus might be advised, with all its repulsiveness and trouble to the patient; but, instead, I made an opening over the lower part of the descending colon and united the ileum to it as near the ileo-caecal valve as possible by the ligature method, using a strong silk ligature which evidently had established an opening by the second day, with great relief to the patient. The contents of the small intestine now pass directly into the descending colon, the remaining part of the colon being side-tracked, as it were and the affected portion placed at rest; the progress of the disease is retarded and the patient's condition one of comparative comfort in contrast to what it would have been had an artificial anus been made.

Regarding end to end anastomosis, instead of referring to one of my own cases, I shall take one from the practice of Dr. Morrow, of Arthur, late resident surgeon of St. Luke's Hospital, Ottawa, and more recently of the Royal Alexandra Hospital, Fergus.

His patient had a strangulated hernia where the bowel was found to be gangrenous and was accordingly resected. The ends were put together by a continuous suture, including the whole thickness of the bowel and over this a line of Lembert suture. The result was perfect recovery.

These cases are types of many met with and to go on quoting more would be a needless waste of time. Let it suffice to say that the great relief from chronic stomach troubles, which hitherto have been amongst the bugbears of the profession, is rapidly being placed upon a rational basis and that in this field, if I read the signs aright, we are on the eve of great advancement.

ADDRESS OF WELCOME.*

By J. C. DAVIE, M.D., Victoria, B.C. Vice-President Medical Council.

MR PRESIDENT and Gentlemen,—In the absence of Dr. Proctor, the President of the Medical Council of British Columbia—which Council is the representative body of the medical profession in this Province—it becomes my pleasing duty, as Vice-President, to welcome to British Columbia, and especially to the City of Vancouver, the members of the Canadian Medical Association.

This is the first meeting of the Canadian Medical Association held in British Columbia, the most Western Province of the Dominion of Canada, and we are extremely pleased to see so numerous and representative a body of the profession present.

Here in British Columbia we have to grapple with the same diseases and difficulties that present themselves in Europe and other centres of civilization. We operate on the brain and chest; do hysterectomies; operate on the stomach, intestines, gall-bladder, and its ducts; on the ovaries and fallopian tubes; on the kidneys and urinary bladder, etc.; in short, we have recourse to all the recognized surgical procedures of our time, and by the aid of the teachings of Lord Lister do our work with wonderful success. Inspired by the spirit of the West, acute septic peritonitis from whatever cause arising, was early treated in British Columbia by promptly performed abdominal section; and we soon learned by clinical experience that early excision of the vermiform appendix was the safest way of treating this dangerous little organ when it became diseased.

Some of us have been astonished to find that in some parts of Europe the advisability of prompt operation in appendicitis is still a question of great divergence of opinion. Recent literature, however, shows a decided tendency towards the adoption of the views held generally by the profession on this continent.

As a result of the abdominal sections which I have performed, one fact has been made apparent to me. No doubt the same thing is well known to most surgeons, though I think sufficient attention has not been

*Canadian Medical Association, August, 1904.

called to this subject, namely, the comparative frequency of enteroptosis in women as compared with men. It is a common thing to find, upon opening the abdomen of a woman, too movable a condition of the liver, the stomach entirely too low in position—its greater curvature below the umbilicus, the transverse colon below the same point, one or both kidneys abnormally movable, and the uterus and appendages crowded down out of place. The result of these displacements I need not dwell upon. It has not been my experience to find anything approaching such a condition of the abdominal organs in men, and one is driven to the conclusion that enteroptosis in women depends to a very great extent upon their methods of dress—the chief factor being that abomination, the corset.

Looking back fifty years or less at the work done by medical men at that time, one cannot fail to be struck by the immense advances made in all branches of our profession. Bacteriology was then unknown, with all the daylight it has thrown upon diseased processes. Clean, and therefore successful, surgery did not exist, and little had been done in that greatest and most promising of all branches of our work, Preventive Medicine. Without doubt, we are inclined to look upon the knowledge of our predecessors as meagre and of little account in comparison with our own; yet, it requires no stretch of the imagination to picture the members of our profession fifty or one hundred years hence, in their turn, looking back at us and wondering at our ignorance and want of knowledge.

It happens only occasionally that a man of sufficient originality of mind arises, like Pasteur, to discover the part which bacteriology plays in disease; or again, like Lord Lister, to establish the simple fact that the unkind behavior of wounds depends upon their invasion by germs; or again, like Lawson Tait, to give us clear ideas concerning tubal pregnancy and the pelvic diseases of women, and to demonstrate that the peritoneal cavity was the safest part of the body for surgical work instead of the most dangerous.

We cannot too greatly honour these men, the whole world being in debt to them—we medical men more than anyone else.

Other problems remain requiring elucidation, amongst which is that of cancer—the *bête noir* of our profession. This requires another man of genius to dissipate the mystery of it, to tell us what it is, and to give us a remedy.

Meetings of the Medical and Surgical Associations of large districts and countries are most useful. At these meetings the most advanced ideas upon all subjects connected with our profession are brought forward and discussed, and reports of such views and discussions are placed before the world in the periodical literature of the day, thereby adding to the knowledge of the profession throughout the world.

That this meeting will be one of great interest and instruction to us all I am confident, the presence of so many men of eminence in the profession assuring its success.

Again, in the name of the medical profession of British Columbia I beg to extend our most hearty and cordial welcome to our visitors.

THE OPERATIVE TREATMENT OF SPINA BIFIDA. *

By E. R. SECORD, M.D., C.M., Brantford, Ont.

THE comparatively frequent occurrence of Spina Bifida, being found, roughly speaking, somewhat more frequently than once in every thousand births, its hopeless prognosis unless suitably treated, and the oft-times favorable results to be attained by such suitable treatment, have led the writer to bring forward the following facts for consideration, and, I trust, discussion.

Leaving aside for the present any reference to the exact frequency of occurrence, to the etiology, to the anatomical conditions, to the symptoms and to the prognosis, my remarks will be confined almost entirely to the question, "Given a case of Spina Bifida, what treatment will, in the majority of cases, bring about the best result?"

In 1885, a special committee of the London Clinical Society,¹ appointed to consider the various methods in vogue for the treatment of Spina Bifida, reported in favor of the method by the injection of Morton's fluid. Their report was based on 71 collected cases treated by this method, of which 35 recovered, 27 died, four were relieved and five unrelieved.

Writing in 1902, Mr. W. H. A. Jacobson,² of Guy's Hospital, says in this connection, "Excision of the sac—— is the method which I recommend, and which in spite of certain grave dangers promotes, I think, the best results in carefully selected cases." Excision of the sac is defined by Van Buren Knott³ as meaning: "The removal of the excessive skin and meningeal membranes, the separation of the nerves, if present, from the sac wall, and their restoration to the spinal canal."

I have quoted Mr. Jacobson's opinion as being that of a fairly conservative, and well recognized surgical authority, and it is very interesting and instructive reading, to follow the literature of this subject during the seventeen years intervening between the dates above mentioned, and to see the pendulum of surgical opinion slowly but steadily swing round until Mr. Jacobson's words practically voice the ideas of modern day surgeons.

As illustrative of the higher class of surgical opinion at the beginning of this period, I may quote two-well-known men:—

*Read at the Canadian Medical Association, August, 1904.

(1) Sir Frederick Treves,⁴ in 1884, wrote regarding excision, "If the sac contains cord elements, the result will prove fatal, if not success may possibly follow."

(2) In 1887, Robert W. Lovett⁵ wrote, "In considering operative procedures for the removal of the tumours one fact is self-evident, that such operations are only applicable in cases where it is definitely determined that the cord is not present in the sac, and that of course restricts the field very much."

He further says, "If Morton's injection fails, and it seems reasonably sure that the cord is not present in the sac, a simple excision of the tumour should be done. If there is reason to suspect the presence of the cord in the sac, excision is of course out of the question, and the case must be left to itself."

Viewing the matter in the light of subsequent experience and teaching it is difficult to comprehend how such a position should have been considered tenable. On the one hand, in the case of the simple cases where the cord is not present, he speaks of a simple excision of the tumour; and on the other, in the complicated cases, he speaks in the following by no means sanguine terms of the treatment by injection, "It is generally accepted that the presence of the cord in the sac, when it can be definitely established, though not a positive contra-indication to treatment by injection, renders its utility somewhat questionable, and adds to its danger." Why then use the injection method at all?

Treves' opinion on this point was, "That he was aware of no case of cure from iodine injection, where it was definitely proved that a free communication existed between the interior of the sac and the spinal canal, that could not be even temporarily cut off, and where at the same time the cyst contained the cord or some considerable portion of it."

Once more it may be asked where then were the arguments in favor of Morton's method? The London Clinical Society's figures in themselves showed a lower mortality rate from operative measures (23 cases, 16 recoveries, 7 deaths), than from injection (71 cases, 35 recoveries, 27 deaths) but this is got over by Lovett by remarking that, "The cases were probably very carefully selected." Judging from his remarks quoted above, regarding the dangers of the injection treatment in the complicated cases, it is very probable that the cases for treatment by Morton's fluid were just as carefully selected. Under any circumstances it is fair to conclude that the cases most suited for treatment by Morton's injection are the simple meningoceles, the very cases in which Behrend⁶ speaks of excision as the simplest of operations. Lovett argued that successful cases of treatment by injection were constantly being reported in the journals. The probability is that the unsuccessful cases were not reported, since Paul F. Eve, nineteen years later, in the second edition of

the same work⁷ says, "The injection treatment however, is very unsatisfactory, as the majority of cases thus treated prove. On account of the many fatal terminations which have occurred as a result of this mode of treatment, a complete excision of the sac has been resorted to." Referring now to personal experience, I may say that in 1898 I saw an apparently uncomplicated meningocele treated by injection of iodine, which was immediately followed by convulsions and death.

As far back as April 1880, W. H. Fitch⁸ reported a case successfully operated upon in the following words, "It is hardly necessary to say that in this case excision of a spina bifida was not premeditated. It was situated in the lumbar region, was $2\frac{1}{2}$ inches by $1\frac{1}{2}$ in size, and presented none of the usual signs of the disease. The excision, however, was complete and, after the loss of much cerebro-spinal fluid, the wound healed gradually and the child was cured."

In 1889, the *Journal of the American Medical Association* remarked editorially,⁹ "That the testimony of recent operators seemed to indicate three pretty clearly defined facts:—

(1) That the escape of a considerable quantity of fluid from the sac is not necessarily attended by dangerous sequelæ.

(2) "That there is less danger from injury to the nerve structures than has been believed.

3. That many of the injurious results of former operations were doubtless due to lack of proper precautions relative to the prevention of sepsis.

In the *Archives of Pediatrics*¹⁰ for the same year appeared two articles, the one discussing the question as to the possibility of the successful operative removal of a spina bifida, and the other reporting a successfully operated case.

The operative treatment being thus placed on at least a justifiable basis, in subsequent discussions and case reports more attention is paid to the methods of operating than to a justification of the operation.

Apparently, the dangers incurred by the use of an open incision, owing to the always present chance of sepsis, deterred operators for the next few years from using this method. Thus, in 1891, F. A. Harris, M.D.¹¹ reported the case of a child five days old with apparently a lumbar meningocele, where subcutaneous ligation of the pedicle resulted in sloughing of the entire mass followed by healing and cure.

Following this, in 1892, F. J. Groner, in the *Medical Record*,¹² describes the case of a child seven months old with a lumbar meningocele, where ligation of the base was followed by operative removal of the tumour. Primary union did not occur but the child recovered.

A further modification of this method is that described by Dr. Henry Howitt, of Guelph, in 1895.¹³ He makes an incision through the skin

surrounding the tumour, isolates the pedicle, ligatures it without opening the sac, removes the part external to the ligature, and closes the skin incision. He reports six cases, all of which recovered from the immediate effects of the operation. One died nine months afterwards, and a second developed hydrocephalus and also died.

One of Dr. Howitt's cases had a club foot and vesicæ-sphincter paralysis, the tumour containing nerve tissue. These conditions were neither improved nor rendered worse by the operation. In regard to this, he makes the statement that, "All portions of the cord which escape into the sac, and which are attached to and follow its inner wall, are permanently destroyed, so far as their natural function is concerned. In other words we have paralysis in the parts supplied by them, and they may be removed without adding one iota to the paresis.

That this is not a safe rule to follow is shown by the fact that Jas. H. Nichol's, of Glasgow,¹⁴ in a very interesting paper to be again referred to, tells of a case where he produced paralysis of one leg by damage done in dissecting nerve cords from the interior of the sac. Moreover, fairly numerous cases have been reported, e. g., those of Pearson, and Van Buren Knott, where paralysis has been relieved by dissecting free the nerve tissue contained in the sac and returning it to the spinal canal, thus showing that, even if the function of extruded nerve tissue be in abeyance, it is more a matter of inhibition, possibly from the abnormal position, than of permanent destruction of function as Dr. Howitt suggested. Consequently, its operative removal would be a serious mistake, and this constitutes a very valid objection to any of these operations that do not open the sac and allow of its exploration.

In reference to the practice of ligating the neck of the sac, Nicholls reports two cases in which relapse followed where this method had been employed. It would seem preferable to close the neck by at least two rows of catgut sutures, applied from inside the sac.

He also discusses at some length the methods of closure of the gap in the spinal column, and comes to the conclusion that the opening, when closed by fibrous tissue and muscle by layer sutures, becomes very solid. He has not found the necessity of bone transplantation.

In the same year, Prof. C. Y. Pearson,¹⁵ reported a case of myelomeningocele on which he had successfully operated, where a certain amount of vesico-rectal paralysis, which had existed before the operation, had disappeared. He laid special stress on the avoidance of escape of cerebro-spinal fluid, and advises the packing of the spinal canal with gauze for this purpose. In direct contrast to this is the advice of Nicholls, who makes no attempt to prevent the escape of cerebro-spinal fluid, and who also, if hydrocephalus is present, purposely elevates the head of the child to permit of the escape of a certain amount of the fluid before closing the

neck of the sac, thinking that in some cases this may relieve or cure the condition.

The question as to what influence the operative treatment of spina bifida has in producing subsequent hydrocephalus is one worthy of some consideration. Nicholls, on the one hand, expressly states that he does not think that the operation has any effect in producing this condition; but, as we have seen, believes that it may have a certain curative influence. On the other hand, there are scattered cases in the literature where hydrocephalus developed soon after, and apparently depended for its production on, the operation.

For instance, Charles G. Cumston¹⁶ reports a case of spina bifida in the region of the fourth and fifth thoracic vertebræ. The cord was in the sac but was easily reduced, and the pedicle closed by suture. The child died on the fifth day with symptoms of hydrocephalus. Again, Dr. De Forest Willard¹⁷ describes the case of an infant on which he operated at five weeks, where on opening the sac the entire cauda equina was found adherent to the posterior wall, the filaments being dissected free and replaced in the spinal canal. Primary union was secured; but the child, at the time of writing, was apparently becoming hydrocephalic, the author remarking, "A not uncommon sequel."

Lithgow¹⁸ reports a case of a child, ten months old, with a spina bifida in the lumbar region. The sac was excised, the pedicle closed and the skin flaps brought together and sutured, the child making a complete recovery, but died ten days after operation from convulsions. The most natural explanation of this fatality would seem to be that there was hyper-secretion of cerebro-spinal fluid which unable to produce hydrocephalus, owing to the age of the child and consequent fairly firm union of the sutures, did produce increased intra-cranial pressure, with convulsions and death.

It is difficult to see just what influence the removal of the sac of a spina bifida could have in producing hydrocephalus. Assuming that this latter condition is dependent on a hyper-secretion of cerebro-spinal fluid, which is by no means admitted by all authorities; or, even going further and assuming that the spina bifida itself is dependent on the same cause, why should the removal of the sac set up renewed or increased secretion?

It is said¹⁹ that the cerebro-spinal fluid is secreted by the choroid plexuses, that its secretion is constant but variable in quantity, and that means for its escape are supplied by the tubular prolongations of the sub-arachnoid spaces along the nerve roots, which prolongations are continuous with the lymphatic vessels of the nerves. If we could assume that the sac of a spina bifida acted as a resorbent of the cerebro-spinal fluid, that the operation, but cutting off this means of escape, produced a tendency toward retention, which under certain circumstances might be suf-

ficient to produce enough intra-cranial pressure to bring about a hydrocephalic condition, we would have a fairly complete chain of events.

I have seen practically the same series of conditions occur in the case of an occipital meningocele of about the size of the child's head. It was removed by operative measures, with perfect success, primary union being secured, but within three weeks a hydrocephalic condition was apparent, which rapidly increased and soon ended in death.

It is difficult to see how the mere escape of a certain quantity of cerebro-spinal fluid, as recommended by Nicholls, could prevent the occurrence of this complication; but, on the other hand, it is equally difficult to understand how the blame for the occurrence of hydrocephalus after an operation can be laid at the door of the operation itself, though *post hoc* it is not necessarily *propter hoc*, especially since there is, so far as I am aware, no evidence that the sacs have any such resorbent action as I have suggested.

Another possible mode of action is that the sac, by rapidly increasing in size, affords room for the increased quantity of fluid, that when the sac is operatively removed this fluid must find room for itself elsewhere, and, in so doing, produces the hydrocephalic condition. If this were the case, then it would seem that these cases where there is rapid enlargement of the spinal sac would be the ones where hydrocephalus would be the most likely to develop after operation. Whether this is the case or not could only be determined by observation of a long series of such cases, and I know of no such observations.

As already noted, Nicholls feels that the practice of dissecting nerve cords from the interior of the sac is not without risk. He accordingly advises that where nerve tissue is present on the sac wall, the latter should be cut into ribbons parallel with the nerve cords, the portions free from such excised, and the internal surface of the remaining nerve cords roughened with the point of a knife and replaced in the spinal canal. If excision of even small portions of the sac is impossible, the interior is roughened as before, and the opening closed, reduction in the bulk of the tumor being obtained by fibrous contraction.

The following cases may be described as illustrative of the results to be attained by operative treatment.

Case 1, P. H., aged eight years, presented a large discharging mass in the lumbo-sacral region. At birth, a somewhat pedunculated mass, about the size of a large hens egg was present, low down in the middle line of the back. There was no paralysis, no club-foot, nor other evidence of nerve involvement. The physician in attendance advised aspiration, followed by injection, and this method of treatment (presumably the injected fluid was Morton's mixture or some modification thereof) was carried out shortly after birth. Considerable inflammatory reaction fol-

lowed the injection, which apparently went on to suppuration. At any rate a purulent discharge soon appeared, which continued, in varying quantities, up till the present. At times there was mal-odor, at times there was none. The general tendency of the mass was to enlarge and become harder, and the general health of the child remained fairly good. At the time of the operation, the patient was a rather well nourished little girl, about eight years of age. At the lumbo-sacral junction in the middle line was a mass of about the size of an orange, slightly flattened antero-posteriorly, and attached above to the body by a short pedicle about two inches in diameter. The surface of the tumour opposed to the skin of the back was formed of healthy skin, whereas the posterior surface of the mass was extensively ulcerated, and discharged pus freely, which latter however chiefly came from a sinus, the opening of which was situated at about the centre of the posterior surface. By probing this sinus was found to pass directly inwards for about $2\frac{1}{2}$ inches, and apparently to end blindly. The mass was not tender. On palpation of the pedicle the spinous process of the last lumbar vertebra appeared to be defective.

Operative removal was advised and carried out in the following manner: Elliptical incisions were made around the pedicle of the mass through the skin, latter being retracted. The pedicle was then cut across. It had been my intention to do this slowly, keeping up a sharp lookout for any evidence of meningeal protrusion. From the moment of the first incision into the tissues of the pedicle, the haemorrhage was so very free that this object was lost sight of in the presence of the more immediate necessity of removing the mass and controlling the bleeding. Owing to the hardness and brittleness of the tissues, the control of haemorrhage was extremely difficult, artery forceps simply crushing the tissue and causing more bleeding than ever. The actual cautery assisted somewhat, some half dozen or more artery forceps were left in situ, and pressure applied by means of dressings firmly bandaged in place. The patient was practically moribund, and was removed from the table with the full expectation of early death. The pressure, however, controlled the haemorrhage and she rallied immediately, the forceps being removed at the first dressing. The wound healed by granulation without any bad symptoms. Needless to say, there was no patent meningeal protrusion.

Case 2, Babe D., aged 2 days, had a typical meningocele in the lumbar region. The skin overlaying the tumour was extremely thin and rupture seemed imminent. There was no evidence of any nerve tissue being contained in the sac.

Elliptical incisions were made through healthy skin, and the skin separated laterally from the pedicle of the tumour. The sac was then

opened, absence of nerve tissue established, the neck of the sac sutured from inside with fine catgut in two rows, redundant tissue removed, and the skin incisions brought together and sutured with silk-worm-gut. Primary union was obtained and the stitches were removed on the tenth day.

The foregoing may perhaps be said to warrant the following conclusions:—

(1) There are no absolute contra-indications to the operative treatment of spina bifida. The worse the case the more marked becomes the futility of other than operative measures, and the greater the probability that the child will die if left alone. Paralysis, hydrocephalus and marasmus—often spoken of as contra-indications—should not be so considered. Each has been and may be improved.

(2) As to Method. In meningocele open sac, after dissecting up the skin by a pair of lateral incisions, suture of the neck, and removal of redundant tissue. In myelo-meningocele, and syringo-myelocele the same method, combined with loosening of the nerve cords and return of the same to the canal, should be followed.

(3) As to Prognosis. Meningoceles, with more extended experience, should yield practically-uniformly favorable results. In cases of syringo-myelocele and myelo-meningocele, owing to oft present nerve involvement, the results will not be so encouraging. Paralysis may be relieved.

(4) As to Technique. Absolute asepsis, combined with as little handling of nerve tissue as is essential, will give the best results. Loss of cerebro-spinal fluid in moderate amounts is not of importance. Operating on an inclined plane is not necessary. The use of bony flaps is rarely if ever essential.

REFERENCES.

1. The Transactions of the London Clinical Society, Vol. xviii; 2. Jacobson Mr. W. H. A., The Operations of Surgery, Vol. ii, p. 743; 3. Knott, VanBuren. The Annals of Surgery, Vol. i, 1902, p. 629; 4. Treves, Sir Frederick, Ashurst's System of Surgery, Vol. 4, p. 899; 5. Lovett, Robert W., The Reference Handbook of the Medical Sciences, 1st edition, Vol. viii, p. 474; 6. Behrend, Journ. f. Kinder krankheiten, Vol. xxxi; 7. Eve, Paul F., The Reference Handbook of the Medical Sciences, 2nd edition, Vol. vii, p. 391; 8. Fitch, W. H., Chicago Medical Journal and Examiner, 1880. Excerpted by C. P. Kelsey in The New York Medical Journal, Vol. 32, p. 189; 9. The Journal of the American Medical Association, Vol. viii, p. 639; 10. Archives of Pediatrics, Vol. vi, 1889, p. 58; 11. Harris, F. A. M.D. The Medical News, 1891, Vol. lix, p. 484; 12. Groner, F. J., The Medical Record, 1892, Vol. xiii, p. 14; 13. Howitt, Henry, Dr., The Medical Record, Aug. 24, 1895, p. 265; 14. Nichols, Jas. H. The British Medical Journal, Oct. 15, 1898; 15. Pearson, C. V., Prof., The British Medical Journal, Nov. 5th, 1898, p. 1892; 16. Cunston, Charles G., The Medical News, July 18th, 1903, Vol. 83, No. 3; 17. Willard, DeForest, Dr., The Annals of Surgery, Vol. ii, 1902, p. 451; 18. Lithgow, The British Medical Journal, Jan. 18, 1902; 19. Foster, M., A Text-Book of Physiology, p. 824.

THE DECLINE OF ATROPINE.

By G. STERLING RYERSON, M.D., C.M., L.R.C.S.E.
 Professor of Ophthalmology and Otolaryngology in the Medical Faculty of the University of Toronto.

TIME was, not so very long ago, when the ophthalmologist's remedies consisted of atropine, nitrate of silver and eserine. Thanks, however, to the discoveries of modern chemistry and the consequent manufacture of synthetic products a new era has dawned on ocular therapeutics. One of the earliest effects of the new condition of things is the decline in the use of atropine. Its use has declined for several reasons:—

1. Because of its toxic properties.
2. Because of the inconvenience caused by the paralysis of accommodation and the length of time required to recover the use of the organ for near vision.
3. Because other drugs have been discovered which attain curative ends without the disadvantages of atropine.

The toxic effects of atropine may be produced in persons who have a special idiosyncrasy, by very small quantities of the drug, either applied to the eye or taken internally. I have known two drops to produce delirium, scarlatinoid rash, dilatation of the pupil, maximum difficulty in swallowing, and rapid and weak pulse. Unfortunately, we are unable to foresee in whom these symptoms will be produced and our first intimation arises such as conjunctivitis and swelling of the lids. A more serious local complication is glaucoma, hence it has become an axiom that atropine should not be used in persons over 45 years of age, this being the age at which glaucoma is most liable to manifest itself.

The inconvenience and discomfort caused by its use may sometimes be a serious matter, from a financial point of view, for the patient. I have often known working men laid off from work for two or more weeks by the injudicious use of atropine in removing a small foreign body from the cornea. My practice is to instil a few drops of castor oil, and, if there is considerable conjunctival irritation, a 2 per cent. solution of cocaine and boric acid. The objections to the promiscuous use of atropine do not apply with so much force to duboisine and hyoscine, but they are not as useful therapeutically.

The treatment of eye inflammations has been greatly assisted by the discovery of adrenalin. It can be used alone or in combination with cocaine or eserine or both in a 1-2000 solution. The eserine should be used in the form of the sulphate and not in greater strength than $\frac{1}{3}$ of a grain to the ounce of water. Dionin is a remedy of great value in iritis, in corneal ulceration and cyclitis. It has a remarkable lymphagogue action and is of great use in recent effusions into the humors of the eye. It is

also valuable in corneal opacities. I had recently a patient who had been discharged from the army for blindness of the right eye, following severe conjunctivitis and keratitis, his vision being reduced to counting of fingers at 12 inches. Under two per cent. dionin, his vision improved to 15-40. Cocaine may be used to allay pain but it should be used cautiously as it lowers the vitality of the corneal epithelium and its continuous use is contraindicated in ulcers of the cornea.

PATENT MEDICINES. *

By C. J. FAGAN, M.D., Victoria.

MR. PRESIDENT and Gentlemen,—The subject embraced in the title of this sketch is a wide one; too comprehensive, in fact, to admit of anything like exhaustive treatment on an occasion like this. We have a vast number of grave questions to discuss, and must necessarily be as brief, concise, and analytical as possible in our treatment of the various subjects before us during the only too short period we shall have the benefit and pleasure of the company of this gathering of the medical profession of Canada. I shall, therefore, ask you not to, and I know you will not, expect more than a passing review of the evils which I shall endeavor to point out. Not that anything which I may say in this connection can be considered as new, because the evils wrought by patent medicines are brought forcibly home to the medical practitioner almost every day.

We, every one of us, have had experience of it. The patient whose case we have made a study, over whom we have spent our best thoughts, our most untiring care, is lured away by some glowing advertisement of alleged miraculous cures, just at a time when we have got his ailment under control and have him on a fair way towards recovery.

He purchases bottle after bottle, it may be case after case, of the wonderful elixir brought to his attention, and, after utterly ruining his system with some quack concoction, struggles back to our office, more dead than alive, and, in complaining tone of voice, says "Doctor, I don't seem to be getting better." Of course, he doesn't; but it never occurs to him to put the cause of failure down to any other agency than the unfortunate physician who has been forsaken in the midst of his task.

Then there is the person who has been "doctoring" himself with quack nostrums until he has absolutely ruined the handiwork of the Creator, and then, at last, appears at our office door when he should in reality be calling on the minister of religion and the undertaker. In both cases the physician is expected to work a miracle by effecting a cure. If,

*Read at Vancouver Meeting of the Canadian Medical Association, August, 1904.

with the assistance of Providence, he does so, nothing more is heard of it; human nature is inherently forgetful, I shall not say ungrateful. If, on the other hand, as is more often the case, medical science is unable to restore outraged nature, then the physician comes in for all the blame.

It is an old axiom in the legal profession that a man who is his own lawyer has a fool for his client. The same thing may just as truly be said in medicine, with the startling difference that in the latter case the man is tinkering with his life, instead of his property. He can survive the loss of his property, but his life was given to him as a trust to be used for the benefit of himself and the community at large. The responsibility would, therefore, seem to be all the greater.

One thing, however, may be said in mitigation of the indulgence in quack medicines, namely, that human nature is more or less confiding. So that a statement, made with a positive air of authority and a fair show of truthfulness and accuracy, is taken for granted by the average person.

The press, which has done such an enormous amount of good, which performs such a stupendously important mission in the affairs of men, and to which we owe so much, is also responsible for the working of so many wrongs. It is a natural sequence of events that this should be so. There is unfortunately no perfect human agency or creation; and the very fact of the vast power and influence of the press, is the cause of almost equally great evils being wrought. The public has been educated to look on the press as an authority; hence the belief of the public in statements appearing in newspapers. The public, on the average, does not stop to think that the press is a commercial, money making institution, and that the lurid statements, set out in flaring headlines, are nothing more nor less than advertisements, paid for at so much per line or so much per inch.

We see every day advertisements prominently placed in otherwise respectable newspapers which are not only a moral disgrace but are cruel lies. Promises are made which every medical man knows are impossible of being carried out. Cures are claimed which cannot be investigated; and, altogether, the absurdity and exaggerations are so great that it is a wonder any one is found willing to be duped. But as drowning men catch at straws, when respectable papers print such nonsense as "Sure cure for cancer," or "Mrs. So.-and-so in the last stage of consumption cured by Mother Somebody's syrup," and an attached letter from Mrs. So.-and-so certifying to her cure, how can one blame these poor creatures? It would, I think, astonish our financiers did they realize how much money goes out to these grasping charlatans.

Only a few months ago, a father brought his son to my office for advice. The boy was in the last stages of consumption and, after giving some instructions, I told the father there was no hope for his son.

Yet, incredible as it may seem, that man paid, if I remember rightly, some \$24.00 for "sure-cure" consumption remedies during the next six weeks. He told me this when he came to inform me of the boy's death, and explained that he had not much faith in them, but saw it stated in advertisements that cures followed the taking of the medicine in cases given up by many doctors. As the old man said "this seemed to be a chance to save my son's life, and, although I could not afford much, I thought it my duty to try it."

This is but a sample. Every medical man can speak as to similar cases.

Another case that made a deep impression on me was that of a young girl in the early stages of consumption. I sent her to California for the fresh air cure. On the way down she saw a "sure cure" advertisement, consulted the advertisers and remained in San Francisco to take their remedies. She had then four or five hundred dollars, but left San Francisco after three months, all her money gone, and came home to die in about three weeks. This I always considered pure and simple murder, and I regret that it is not within the power of the law to prosecute persons who so shamelessly commit the double crime of robbery and murder. The foot-pad who beats a person to death with a loaded stick or sand-bag and then robs him, is hanged. The so-called respectable patent medicine vendor who lures the money out of the pocket of an unfortunate, sickly, working girl, a youth, or father of a family, and often prevents them receiving reasonable treatment at a time when it would be of some avail, although in the eyes of God equally guilty with the brutal highwayman, is yet allowed by the law to go absolutely free. It is difficult to conceive which is the more cold-blooded of the two.

One must admit that considerable ability and business acumen are sometimes shown by patent medicine vendors. A chain of symptoms is narrated, some of which are almost certain to be present in almost any disease. We all know how a nervous, anxious, or suffering patient will experience any or all the suggested symptoms. On this knowledge the patent medicine vendor plays. He works it to a finish, rakes in his gold and in some instances can compare his banking account favorably with some of our business millionaires.

It is wonderful, but it is true, how many intelligent persons take these medicines and never stop to consider whether it is reasonable that drugs, often of a powerful nature, could be combined in suitable quantities for various diseases and differently constituted individuals. Cocaine and opium are freely used, and no doubt their use gives a favorable first impression. They are all right in their proper places, but the question as to when, how, and how much is to be given in each individual case, is often a perplexing one even to the medical attendant: All practition-

ers are aware of the fact that these medicines, and others too, which relieve present symptoms are actively injurious and may lead to serious consequences.

Another common constituent found in patent medicines is alcohol. Now alcohol is an excellent vehicle and preservative, and is often useful and necessary in the prescribing of drugs, but each case has to be judged on its merits; and whether alcohol is to be given in large or small quantities, or at all, depends on the particular case under treatment.

Recently it has been stated in the daily papers that alcohol is present in large quantities in patent medicines. I have thought it my duty to enquire into this and, therefore, looked over the advertisements in several papers and picked out some of the best known mixtures.

I have taken from local advertisements the following and examined same for alcohol and found the following percentages: Paine's Celery Compound, 18.25; Warner's Safe Cure, 16.12; Ayer's Sarsaparilla, 21.19; Sanmetto, 19.7; Burdock Blood Bitters, 18.16; Hood's Sarsaparilla, 16.24; Lydia Pinkham's Mixture, 26.00; Peruna, 26.04; Whiskey from Savoy Public House, 36.00. For the purpose of comparison, I calculated the alcohol from straight whiskey which I bought at the Savoy Public House in Victoria, and found it contained 36 per cent alcohol. Now, the difference between this and some of the patent medicines mentioned is not very great; yet, should whiskey be prescribed in as wholesale a manner as patent medicines are used, there would be an outcry; but when alcohol is taken in such quantities as is contained in certain patent medicines, unknowingly by women and young girls, the question becomes serious; and, I trust, this Association will by resolution appeal to the authorities to take some action, or, at least institute an inquiry on this important matter.

SUPPOSED CASE OF GLANDERS IN THE HUMAN SUBJECT.

From the note book of Dr. James H. Richardson, we take the following case:—

On the night of Monday, the 10th of April, 1848, Dr. Morrison called upon me to go with him to see a case which somewhat puzzled him. The patient was a man living down in "the Park", as it is called, away below Gooderham's Mill, close by the back of the Don. Dr. Morrison stated that he had been attending him for an intermittent for some time, and had given him some quinine, and a little pill hydrarg. That he had complained of rheumatic attacks in different parts of his body, and that one knee in particular was inflamed. He further said that he had been called to see him during the morning of Monday, and found him with considerable febrile action, and with full hard pulse, on account of which he

had taken from him some 10 oz. of blood. His bowels were costive and he had ordered some purgative. I saw him at 12 o'clock Monday night. He was then somewhat better than he had been a short time previously. His countenance was very anxious, his eyes somewhat congested, his pulse very quick, weak and irritable, he was sweating very profusely, so that all the clothes were wet. The most remarkable symptom of all however was a singular affection of his breathing, which was hurried and laborious. The inspiration gave rise to a clacking sound, difficult of description, not sibilous but as of the passage of air through some tough mucus. Upon requesting him to breathe with his mouth open, he obtained considerable relief, the sound disappearing; when left to himself it also diminished, but became again more severe when he was excited, and was accompanied by some spasmodic action. He had a cough—no tenderness over the larynx—or at least a scarcely perceptible tenderness there. He could speak plainly but with hesitation and sobbings—which I afterwards learnt was common to him. His tongue was slightly furred—brown towards the back. His bowels were costive still. While looking at him, I perceived several large swellings like boils—one situated on the back of his left hand, one on the side of his nose, some on his arms; and on calling Dr. Morrison's attention to them, I found that they had developed themselves during the last 24 hours. They were large, hard, purplish, with considerable redness around, and one or two, I do not now recollect which, were evidently suppurating. They seemed very singular to me, and attracted my attention on that account. His left knee was swollen and red, and just anteriorly was one of these lumps, larger than any of the other. There was great prostration, he being unable scarcely to grasp one's hand, and some subsultus, although slight. Altogether his condition seemed so deplorable that we both despaired of any amelioration. His intellect, I may remark, was untroubled.

In regard to the trouble of breathing we could not refer it to laryngitis in view of the symptoms, there being no swelling nor tenderness of the throat, there being but little of such febrile action as one would expect, the breathing being easier when the mouth was open. We were led to infer that some, if not all of the difficulty lay in the posterior nares—the posterior fauces when inspected were considerable congested and of a purplish cast.

Dr. Morrison gave him some camphor, or the like, and applied a mustard poultice to the throat.

On Tuesday morning I saw him again. He seemed still weaker, countenance more anxious—was sweating most profusely till all was wet about him—bowels still costive—respiration not more difficult than before—pulse weaker and more accelerated. On looking at him I perceived

a thin mucous matter running from his nose; upon enquiry he said that his nose ran very much. While consulting with Dr. Morrison, the peculiar eruptions before mentioned, along with the nasal discharge came forcibly to me and my first enquiry was whether, or not, he had been attending some glandered horses. I was told that he had a diseased horse and had had several for the last 6 months. On examining the one in his stable I found it labouring under profuse nasal discharge, opaque muco-purulent.

On our way home, his neighbours stated that he had glandered horses for some time and had been advised often to part with them. That he had been seen to drink out of a pail after his horses, etc., etc. To wipe the nose of his horses with his own pocket handkerchief, to cleanse their noses with his own fingers, etc., etc. One old man whom I asked whether he had not some glandered horses or not,—“Yes, indeed, and it’s the very same disease that he’s got himself.”

The similarity in the breathing of the horse and the man was very apparent. On Wednesday morning the poor fellow died—exhausted yet still sensible I believe. A messenger came up to ask Dr. Morrison and myself to examine the body, but on going down there the next morning we found everything arranged for a grand flare up—an “illegant wake”—seats, pipes, whiskey and all the necessaries and received the peremptory denial when about commencing operations from an Irishman who had been attending him very faithfully, and had been made one of his executors—Mr. Ripley being the other. So that we were cheated quite out of our means of ascertaining the condition of the parts. The general opinion was that he was similarly affected with the horses, and indeed I came to the same conclusion.

I saw two more of the horses on Thursday and found them both glandered. There was running of a glairy fluid from one, and submexillary enlargement in but one.

Youatt states that the glanders is in this state more virulent and more contagious than in any other.

Hamilton Medical Association had the largest turnout in its history, and the most enjoyable, at its annual election of officers and banquet, held 8th December, in the Hamilton Club. Dr. Walter Langrill, the retiring president, was in the chair, and Dr. H. S. Griffin was vice-chairman. Between 40 and 50 medical men sat down. The toast list was short but the speeches were of a high order, and the music, of which there was an abundance, was excellent.

A YEAR'S EXPERIENCE WITH LUMBAR PUNCTURES.

By A. CH. UFFARD & L. BOIDON, Hospital Cochin.

Translated and Abridged from the Gazette des Hopitaux, Paris,

By MALCOLM MACKAY, B.A., M.D., G.M., Windsor Mills, Que.

SINCE Widal Sicard and Ravant demonstrated the value of the cytological examination of the cerebro-spinal fluid for the diagnosis of meningitis, many investigations have been made of the composition of this fluid as it is found in the course of various maladies. Particularly, one may find important articles upon the meningeal reaction in affections which attack the nervous system. Thus far, however, in order to arrive at the basis of these forms, the authors have been compelled to make a microscopic percentage list from the results obtained in each of these separate studies. It is possible at present, by using these investigations, to obtain a just estimate of the value of the information furnished by this method, not merely in regard to pathological entities, but to every day clinical work. It is with this end in view that we have systematically practised lumbar puncture in all patients likely to present the meningeal reaction, who were admitted to our service in the Hospital Cochin from May 1903 to May 1904.

One hundred and forty patients were thus operated upon. In seventy-nine, the examination was positive; and in the remaining sixty-one, although negative, it was none the less useful for diagnostic purposes, besides it was also practised for a purely therapeutic effect in these cases.

Before approaching the study of the results, let us be permitted to remark that they were obtained by following a precisely similar technique, namely, centrifugalizing in an electric machine for a quarter of an hour five cubic centimetres of the liquid, the sediment being removed completely and, after stirring, divided into three parts, and these drops placed upon slides. The examination was not considered positive unless the elements exceeded the number of five for each immersion field.

I.

Tabes.—Eleven patients showing definite signs of tabes were under our care. In nine cases we found an abundant lymphocytosis. These patients all had the Argyll-Robertson pupil and four only acknowledged having had syphilis. The two cases with absence of lymphocytosis, nevertheless, presented a clear clinical picture of tabes; both were old syphilitics, although in one the Argyll-Robertson pupil was lacking.

To report from the clinical side, we practised lumbar puncture in some patients who showed merely presumptive signs of tabes, and an abundant lymphocytosis was demonstrated several times. Thus in two patients who had been admitted to the hospital for totally different affections, but in whom a complete examination had revealed absence of

the achilles jerk on both sides, and absence of the knee jerk on one side only, we found a very decided lymphocytosis. It was precisely the same in two others who had syphilitic laryngitis, one of whom, moreover, presented total abolition of the knee jerks. Finally, we observed in a patient suffering from an aortic dilatation which was accompanied by an inequality of the pupils with Argyll-Robertson's sign, an abundant lymphocytosis upon two successive trials. It is certain that in all these cases the presence of lymphocytes in fairly large numbers is the manifestation of a central lesion which renders the prognosis distinctly more gloomy.

General Paralysis.—All nine cases of general paresis examined presented an abundant lymphocytosis, twice only was there an associated increase in the muscular elements. Four of these patients had the Argyll-Robertson sign, and the inequality of the pupil was a constant feature. In but four cases was there a history of Syphilis to be obtained.

Argyll-Robertson Pupil.—In all observations of general paretics and tabetics, proven or suspected, we carefully remarked the coincidences which existed between the Argyll sign and the condition of the cerebrospinal fluid. We were thus able to verify what had been stated by Babinski & Nageotte, Widal & Lamine, for in fourteen cases of tabes or general paresis, showing the sign, we found an abundant lymphocytosis fourteen times. Further in these cases the Argyll sign was never accompanied by the meningeal reaction, the latter being absent in one tabetic, one suffering from syphilitic laryngitis, and one with pyloric stenosis, all of whom showed a definite Argyll-Robertson pupil.

Tubercular Meningitis.—We shall not emphasize the results obtained in thirteen cases of tubercular meningitis. Always a marked lymphocytosis was present, and the polynuclears were more with in equal or slightly greater numbers than the mononuclear elements in but two cases. Nine times we demonstrated Koch's bacillus by direct examination of the sediment. In several of these cases it was lumbar puncture which furnished an exact diagnosis. In one observation in particular it permitted us to diagnosis meningitis, when the case was clinically obscured by an acute alcoholic delirium.

Cerebrospinal Meningitis.—We are able to follow three cases of cerebrospinal meningitis. One terminated in death, notwithstanding repeated punctures and hydrotherapy (hot.) The purulent fluid, charged with polynuclears, contained a large number of diplococci having all the reactions of the meningococcus. The two other cases were, on the contrary, mild attacks. The polynuclear cells were unmixed; but the patients left the hospital too soon to follow the evolution of the meningeal reaction.

Zona.—We had in one year nine cases of zona. Eight times a lymphocytosis existed. Always extremely abundant at the height of the

disease, the elements were pressed closely one upon another showing a veritable mosaic pattern. This lymphocytosis was always rather tenacious. In the case where the cytological examination of the cerebro-spinal fluid was negative, though made upon three occasions, there was but a slight herpes and little pain, the patient having suffered from an acute bronchitis upon a well marked emphysema.

Syphilitic Hemiplegia and Meningitis.—In two patients, young hemiplegics with syphilis, we found lymphocytosis. Vigorous mercurial treatment cured in one case and improved the other.

Disseminated Sclerosis.—We made three punctures in a case of disseminated sclerosis and, although the cerebro-spinal fluid was found normal at the first exploration, yet two and three months later there was a moderately large lymphocytosis.

Finally, we have had two negative results in two cases of cerebral tumour, in three of epilepsy, in two cases of carbon monoxide poisoning and one of carbon bisulphide, in one light attack of sunstroke and in two of facial herpes.

II.

But beyond these facts confirming previous work, lumbar punctures practised in all doubtful cases have permitted us to study facts less known, and these have more particularly been the object of our researches. We speak of meningeal haemorrhages.

We withdrew a bloody fluid from fourteen patients by lumbar puncture; but it did not have the same signification in every case. We have in effect with Froin established an important difference between pure meningeal haemorrhages and cerebro-meningeal haemorrhages; the bloody exudation in the case being secondary to a deeper haemorrhagic focus of cerebral origin. There were ten such results in our observations the other form being tabulated as simple meningeal haemorrhage.

We do not wish to enter into details in regard to these cases, many of them having been already published and the rest will be included in the thesis by Froin. We wish only to insist upon the value of lumbar puncture, which proceeding alone has in a single year allowed us to diagnose four cases of haemorrhage meningitis. This malady simulates from a clinical standpoint very various affections. Thus in one case it appeared like diabetic coma. In another a cerebro-spinal meningitis. In a third the clinical picture was that of a uræmic attack. In this latter report an extraordinary localization of the coagulum was discovered, as it compressed the optic nerves and vessels which surrounded them, having thus produced a temporary blindness. Ch. Archard and Paiseau have recently reported an analogous case in which the meningeal haemorrhage was accompanied by paralysis of the third pair.

For one who has to do with cerebro-meningeal haemorrhages, the results furnished by lumbar punctures are frequently enough very useful for diagnosis. In certain cases of hemiplegia it is often difficult to say whether they result from a haemorrhagic focus or from a softening.

Now in every case where we had no trace of blood in the cerebro-spinal fluid during life, we found softening post mortem, so that we think that in the great majority of cases of cerebral haemorrhage there exists a destruction of nervous tissue sufficient to permit of the blood reaching the subarachnoid space. M. Froin in this monograph on meningeal haemorrhages has arrived at the same conclusion.

In the five cases of softening which we observed the fluid was normal four times and once only was there a slight lymphocytosis.

Lumbar puncture is of undoubted utility for the diagnosis of meningeal and cerebro-meningeal haemorrhages. But it has still another use. It is a therapeutic measure. It can to a certain extent lessen the effects of the increase in tension which result from the sudden rush of blood into the subarachnoid cavity. Also for those who have to treat meningeal haemorrhages it gives a more favorable prognosis. Our four patients recovered and we have already insisted, with M. Froin, that there are some of these types which are curable.

III.

Lumbar puncture has furnished us, furthermore, with very valuable results in particular cases, and in those requiring fine clinical interpretation.

Thus in the course of various infections—pneumonia, or typhoid fever accompanied by grave nervous symptoms—it has often shown the normal condition of the cerebro-spinal fluid, although the clinical manifestations might make one fear a bacterial invasion and not merely a simple toxæmia. In another case, on the contrary, of colon bacillus infection it showed us that the nervous system had been attacked; a young woman entered the hospital in an intense state of collapse with a profuse diarrhœa; the lumbar puncture gave a negative result. Suddenly a hemiplegia supervened and then the fluid was found to be full of polynuclears and, at autopsy, a focus of necrosis, following suppuration from a septic embolus, was found in the central grey matter.

In many cases, certainly, the results furnished by puncture have not cleared up the diagnosis. In one patient among others, non syphilitic, showing ocular manifestations—atrophy of the optic papilla, a secondary optic neuritis, and paralysis of the right external rectus—and, at the same time, characteristic signs of peripheral neuritis, with steppage gait, the presence of an abundant lymphocytosis could hardly serve to coördinate these symptoms. But these cases are interesting to make a note of, for

a study of the patient, followed to recovery or the control furnished by an autopsy, may explain the reason for these meningeal reactions which are at the time difficult of explanation.

The duration of the meningeal reaction deserved to be carefully noted in the various cases. It is for this reason that we carried on as long as possible the exploratory punctures in the cases which we have followed, and in several we have been able to help in clearing up the pathological process.

In three of our meningeal haemorrhages we have noted the normal fluid, eight months, ninety-one days, and forty days, after the beginning of the disease.

IV.

In a certain number of cases lumbar puncture has had most positive therapeutic effects; we do not dwell upon its value in the treatment of cerebro-spinal meningitis and, as a sedative in the course of a tuberculous meningitis and cerebral tumours, we have seen some remarkable examples.

Similarly, in a case of syphilitic meningitis we have seen an alleviation of the painful symptoms after each puncture. We have likewise been able to verify its beneficial action in a case of labyrinthine vertigo, characterized by subjective sounds with constant vertigo, subject to exacerbations. The patient had five of these attacks preceded by an aura referred to the ear. The removal of fifteen c.c. of cerebro-spinal fluid accomplished a great amelioration of the symptoms. The vertigo disappeared and the subjective sounds diminished greatly.

Another observation which clearly demonstrates the advantages of this operation is one seen in a young woman suffering from a chronic neuritis following diphtheria. On the second trial, lumbar puncture relieved the severe symptoms. The terrible headache which caused the patient to cry out, vomiting and dyspepsia, all disappeared.

Lastly, in a tuberculosis subject, suffering from a severe herpes zoster and intense and persistent headache, puncture at once relieved the symptoms and caused them to disappear for a fortnight, when further punctures again relieved the condition. The patient used to come of his own accord now and again for another operation when the pains returned.

V.

One can see by this brief catalogue of the results obtained in one year's work at a hospital, the great diagnostic, prognostic and therapeutic value of this method. But is this operation without danger? Can it be performed without risk? In the two hundred and twenty-three punctures, we have only observed a few slight headaches as a result. Three times only the invalids had vomiting—two herpes, one syphilis.

One puncture performed laterally on a cachetic tabetic, blind and with a double pneumonia, resulted seriously. At the post mortem we were not surprised to find a diffuse bloody infiltration in the sacro-lumbar region. It is practically certain that the germs from the pneumonic process had settled in the region of the haematoma, produced by a badly directed needle which has slightly torn the tissues. This single accident might have been prevented and would have been prevented if, instead of making a lateral puncture, a median puncture had been performed, as in this case the needle would have avoided the vessels of the lumbo-sacral region. A small haemorrhage is not uncommonly found, at post mortem, when difficulty has been experienced in performing the operation; but, unless there is some septic trouble, no ill results follow; and, in the event of there being any sepsis, it is advisable to take the median route as being less dangerous.

With these precautions, lumbar puncture is a harmless proceeding, almost painless and capable of rendering inestimable services.

TREATMENT OF INTESTINAL AUTO-INTOXICATION.

Professor Combe, of Lausanne, treats of this subject in the *Archives de Medecine des Enfants*. Referring to treatment, the writer thinks that the only rational mode of procedure is by diet. Nitrogenous food should be diminished, and the intestine filled with carbohydrates. Farinaceous food is mainly indicated, supplement by milk. Milk has a strikingly antiputrescent effect in the bowel, an action which is also very markedly possessed by fresh cheese. Dr. Combe pins his faith to farinaceous foods. They are slowly absorbed, giving off lactic and succinic acids gradually. They should not be given in large amounts, but in small and frequently repeated meals the following general rules for the diet are recommended: 1. Not to drink with meals; and not to eat when drinking. 2. To divide the nourishment into numerous small meals, taking alternately a solid and liquid meal. 3. To rest lying down, either on the back or on the right side for an hour after each meal, but not to go to sleep. 4. To exclude from the diet all foods which are capable of acting as culture media for the proteolytic bacteria. 5. To avoid all meat that is "high" or apt to undergo fermentation. 6. If enteritis be present, to avoid all food which contains a large amount of cellulose. 7. In severe cases of auto-intoxication or enteritis, to give up meat entirely, and even milk at first. 8. To prefer, when possible, raw milk to boiled, and either to sterilized milk. 9. To take into the alimentary canal as much farinaceous food as possible.

CURRENT MEDICAL LITERATURE

MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

THE PHYSIOLOGICAL ACTION AND USES OF THE SALTS OF BARIUM.

In the *Medical Brief*, November number, Phillips of Aberdeen discusses the action and uses of this little known therapeutic agent. It is mentioned in the B. P. 1898, but only as a test; the dose is generally given as one half to two grains, but this the writer regards as too high and believes that from one-sixteenth to one-twelfth is enough, at least to begin with, the chloride, $BaCl_2 \cdot 2HO$, being the salt used. This salt is readily absorbed, is soluble and is a constituent of some natural mineral waters.

Small doses of the chloride exert a stimulant effect on the stomach, increase the appetite and produce loose stools. Larger doses prove irritant or caustic, with nausea, vomiting, purging and faintness. The minimum fatal dose is put at a drachm.

"The nervous symptoms caused by toxic doses of barium compounds are clonic convulsions and motor paralysis, with impairment of reflex excitability, fibrillary contraction and muscular cramps. From the slow respiration observed in cases of poisoning, it has been concluded that the vagi are paralyzed. According to Cyon, the lesion is central, for even in advanced poisoning the muscular irritability and the sensibility of the peripheral nerves remain intact. Severe pains in the head, throbbing in the temples, giddiness, dimness of sight, double vision, deafness and tinnitus have been experienced; also muscular cramp, especially in the legs.

The chief and most characteristic action of barium is on the heart and blood vessels.

The heart's action is at first stimulated, afterwards quickly and powerfully depressed by full doses of barium compounds, then, after some palpitation, the pulse becomes irregular, feeble, or imperceptible, and the surface cold and pale. Small doses raise blood pressure, while large doses cause a transient rise, succeeded by a fall, or from the first a sudden fall, according to the dose given.

Ringer and Murrell have also pointed out the great similarity of the effect of barium compounds and of digitalis on the frog's heart: the

pulse is slowed, and the heart finally stops in systole; the blood-pressure is raised, probably from the direct action of the metal on the muscular tissues of the vessels; these actions take place independently of the nervous system. This is quite in accord with his own observations.

The chief therapeutic use of the metal is in the treatment of heart affections where it acts as a tonic. It is a substitute for digitalis and acts especially in cases of dilatation with mitral disease and cardiac dropsy. Da Costa praises it highly in restoring compensation and lessening cardiac pain, he gives it in pill, one-tenth of a grain, three times daily. Hare also advises its use in such cases.

SCABIES.

In the *Buffalo Medical Journal*, there is an article on the skin-lesions occurring from the acarus. The writer states that the descriptions of the lesions, as found in the books, will rarely answer for diagnosis as so many variations are seen and so many circumstances affect the typical lesion, the burrows or cuniculi being obscured by the dermatitis that followed the scratching. The positions that are favored are the fingers, hands, wrists, axillae, breasts in women, and penis in men, and, when multiform, eczemoïd lesions attended with nailmarks, indicating the severity of the pruritus, are found in these locations the diagnosis of scabies should be made at least tentatively and a course of treatment tried. It is comparatively difficult to find the parasite, of course its presence confirms the diagnosis.

In the treatment there are two essentials, first kill the parasites both in the skin and clothing, then to follow up the case long enough to be sure it is cured. Sherwell's washed sulphur treatment, rubbing the patient very thoroughly with the dry powder after a hot soap bath and spreading the powder on the lower bed sheet is cleanly and effective. The following ointments are recommended:—

Kaposi's ointment :

R	Naphthol	25 parts.
	Green soap	50 parts.
	Creta alba	10 parts.
	Benzoated lard	100 parts.

Stelwagon's Ointment :

R	Sublimed sulphur, balsam Peru, aa	ʒj.
	Naphthol	ʒ ½ to 1.
	Benzoated lard or } q.s., ad.....	ʒ iv.
	Ung. petrolati... }	

THE NEGRO'S COLOR EXPLAINED.

In the course of a series of investigations of abnormal colored perspiration, a German biologist, Schmitt, has hit upon what he believes to be the reason for the negro's dark skin. The occurrence of the colored perspiration, red, brown, or black, that was studied by this scientist, is reported from time to time in the daily press. In his endeavor to explain it chemically, Schmitt has discovered in the skin a ferment of the class known as oxidases, and also a reducing-ferment capable of removing from nitrates a portion of their oxygen. He finds also in the skin a coloring-matter which he calls uromelanin and which is analogous to the black skin pigment already known under the name of melanin. To translate a note on the subject in the *Revue Scientifique*.

"The red or brown pigments * * * obtained in the reduction of melanin, * * * which are more soluble than it and not precipitated by the acids of the perspiration, are carried along with the perspiration when the oxidizing ferments do not exert their action to alter them. When, on the contrary, the perspiration becomes abundant and then becomes alkaline, as in general is the case, the melanin is no longer precipitated; but being soluble in alkalies, it is precipitated outside abundantly when there is hyperactivity of the oxidizing ferments.

"Schmitt endeavors to explain the pigmentation of the negro's skin thus: Under the action of the solar rays the oxidizing ferments, whose activity is then much increased, oxidize to the maximum the pigments, which are then precipitated in the skin by the abundant acid secretion of the respiration. The pigment, being energetically fixed, is permanent, on account of the neutralization of the alkalies by the constant acidity of the perspiration. And in the case of Europeans, bronzed by exposure to the sun, the discoloration is slow because this mechanism is much less intense with them.

"This hypothesis is certainly verifiable, for the acidity of the perspiration is a definite thing. Can negroes be bleached by sufficient alkalization? If this is not a receipt for whitening them, we have here at least a means of experimental investigation that will enable us to solve the question."—Translation made for *The Literary Digest*.

 LOSS OF CONSCIOUSNESS AND AUTOMATISM IN INEBRIETY.

In the *Virginia Medical Semi-Monthly*, Nov. 11th, there is an article by Crothers, of Hartford, in which this subject is discussed and a number of cases cited. In several cases during the past year, the question came up before the courts in the form: Can an inebriate or a person under the influence of alcohol lose consciousness of his surroundings, and of the

nature of his acts, and go on automatically giving no impression of his real condition? In other words, is it possible for an inebriate, not intoxicated in the general sense, to be unconscious of the nature and consequences of his acts. The writer gives a number of cases to prove that it is possible, although the courts and experts have shown a great reluctance to admit and a great ignorance of the published examples.

Dr. Crothers believes from his experience that the cases may be classified as follows: first, those in which the mind acted along accustomed lines of thought and action; second, those in which the mind displayed unusual ranges of thought and acts, quite different from the ordinary custom; third, those in which the criminal or homicidal impulse was prominent at this time. An example of the first is that of a conductor who, after drinking at night, frequently had no recollection of waking up in the morning and taking his train to its destination, asking the brakeman what had happened. Of the second, which is more uncommon than the others, is the man who after drinking for some time developed strong religious tendencies, visited clergymen, asked for the prayers of his friends, and then suddenly changed back to his old life, without remembering anything of what had passed and without, up to that time, arousing any suspicion of his sincerity. The third class consists of those guilty of criminal conduct, and injury to others. Here the question of responsibility is generally treated on the theory that inebriety is always voluntary and the claim of lack of consciousness is regarded with distrust, the same rules being applied as rule in insanity in general. The late Dr. Beard said that there existed consciousness at the time, and that memory of consciousness was not a necessary coexistent.

Dr. Crothers' own conclusion is as follows:—

(1.) Automatism in inebriety with loss of consciousness is not an uncommon condition, particularly in continuous drinkers. It is also seen in periodic cases as well as in epileptics, and is a distinct palsy of the brain.

(2) All unusual acts or crimes committed by inebriates or hard drinkers should be studied, particularly when there is a possibility of loss of consciousness with alleged amnesia.

(3.) When this condition is established the person is both legally and practically irresponsible for his conduct during this period, and his mental condition is one of great gravity, requiring immediate care and attention. No theories of vice, wilfulness and moral causation should be considered by the physicians. It is a great question of facts and their meanings.

(4.) Cerebral automatism and loss of consciousness are pathological conditions, which must be studied from a scientific point of view to be understood.

SURGERY.

Under the charge of H. A. BEATY, M.D., M.R.C.S., Eng.
Chief Surgeon Canadian Pacific Railway, Ontario Division ; Surgeon Toronto Western Hospital.

STERILIZATION OF THE HANDS.

C. Ledham-Green, *Birmingham Med. Rec.*, June, 1904, says that even after the most prolonged and energetic washing of the hands in soap and hot water it is not possible materially to diminish the number of microbes on them ; and this holds good whether sea sand, marble dust, or Schleich's soap is employed.

There is no advantage in unduly prolonging this washing process as the hands never become sterile, and owing to the loosening of the epidermis generally appear more infected after than before washing. No advantage is offered by the use of soft soap, or soap containing an excess of free alkali. The water should be used as hot as can be borne and should be frequently renewed. After washing, the hands may with advantage be rubbed with a dry, rough, sterile cloth, to assist in the removal of the superficial cells of the epidermis. The use of turpentine, benzoline, or xylol during or after the washing with soap and water does not appreciably improve the results. The aqueous solutions of carbolic acid, lysol, perchloride, or biniodide of mercury are practically powerless to affect the microorganisms situated on the hands. The use of a saturated solution of permanganate of potassium followed by the application of strong oxalic acid (Kelly's method) gives wholly inadequate results. "Sublamin" cannot be compared in efficiency with the alcohol-sublimate method of Fürbringer, which it was introduced to supplant. The combination of an antiseptic like lysol or biniodide of mercury with a soap does not increase the power of the antiseptic, but rather tends to lower it. Such soaps are practically valueless for the cleansing of the hands.

Alcohol possesses a remarkable power of sterilizing the hands, far surpassing that of all other agents. To obtain the full benefit of the spirit method, it is necessary to employ the alcohol for from four to five minutes. Spirit soap is greatly inferior to plain alcohol as a cleansing agent ; and the addition of biniodide of mercury or lysol to this soap does not materially increase its value.

The power which alcohol possesses of sterilizing the hands is principally due to its property of hardening and fixing the superficial cells of the epidermis, in addition to which it has a marked bactericidal action.

Spirituous solutions of antiseptics are markedly superior to aqueous solutions, and the efficiency increases in direct ratio to the percentage of alcohol in the solution, up to about 70 per cent., when any further

increase in the proportion of alcohol causes a reduction in the sterilizing power of the antiseptics.

Of all the methods tested, the best results were obtained by the following modifications of Fürbringer's process:—

1. The hands are first scrubbed for five minutes with soap and very hot water (about 50 per cent.), the water to be frequently changed. The use of sterile sea sand, as an addition to the nail brush, is an advantage.

2. The hands are then rubbed for three minutes with methylated spirit.

3. Afterwards scrubbed for a minute or two with 70 per cent. sublimite alcohol (1 in 1000).

4. Finally, rubbed until dry and polished with a sterile cloth.

The writer advises the use of gloves, or the coating of the hands with a thin layer of hard paraffine when possible; and lays special stress on the importance of avoiding infection of the hands by handling septic material.

SKIN GRAFTING.

Wilcox, in the *Annals of Surgery* describes the procedure as follows:—

The night before operation, the granulating area and surrounding surface should be cleansed, as thoroughly as possible, with green soap and hydrogen peroxide. In case of very foul varicose ulcers, a compress, wet with 50 per cent. solution of hydrogen peroxide, may be applied for a few days previous to operation.

After thorough cleansing, the raw surface is covered with a compress saturated with a one per cent. solution of formaldehyde, the ordinary 40 per cent. pharmaceutical preparation being the unit and this compress is allowed to remain in place until the patient is on the operating table.

When the compress is removed, it will be found that the granulations are dry and dark red in color. This layer is about a quarter of an inch in depth and is pliable and can easily be scraped off with a sharp spoon from the underlying tissue, which is whitish and bleeds very little.

The removal of the granulation layer should be thorough and what little oozing there is, can easily be stopped by the application of the Esmarch solid rubber band for a few minutes. The use of the rubber is a valuable step in the operation, as the smooth rubber makes equable compression, and does not stick to the tissues when removed, but leaves an ideal surface for skin grafting.

The remainder of the operation is the ordinary one for the application of Thiersch grafts.

As a rule at the first dressing, three or four days after operation, the grafts are found adherent and in good order. The dressings should be done every two or three days until the healing process is complete.

EDEBOHLS' OPERATION IN NEPHRITIS.

In the *Maryland Medical Journal*, November, 1904, Duval Atkinson, of Baltimore, gives the following conclusions:—

1. So far as the results show, Edibohls' operation is applicable to only a very limited number of cases of medical nephritis.

2. In chronic interstitial nephritis, in late or contracted forms of parenchymatous and diffuse nephritis, the results do not warrant operative procedures.

3. Edebohls' theory of revascularization of kidney substance by decapsulation has not been proven.

4. The best results have been obtained in movable kidney with albumen and costs.

5. Benefit and actual cure have been obtained in acute and early stages of chronic parenchymatous nephritis, where pain is present and suppression of urine threatens the life of the patient.

GYNAECOLOGY.

Under the charge of S. M. HAY, M.D., C.M., Gynaecologist, Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital.

THE ANATOMY AND FUNCTIONS OF THE UTERINE LIGAMENTS.

Dr. J. Riddle Goffe, Prof. of Gynaecology in New York Polyclinic, writing in the *American Journal of Obstetrics and Diseases of Women and Children* on the above subject, makes some very interesting observations:

He says in studying human anatomy, or anatomy of any animal species, we find that the principle Nature has applied to hold the various organs in place is that of suspension by ligaments. Briefly reviewing the organs of the human body, namely, the heart, the lungs, the liver, the spleen, the pancreas, the kidneys, the intestines, we readily admit that they, one and all, are hung by ligaments from the bony framework of the body. Not one of them is held in place, or receives support from anything placed underneath it. Even the heart and the lungs, that might easily be left to get their support from the diaphragm which is a convenient shelf running across beneath them, do not receive any sus-

taining power from that source, but are suspended by their ligaments. The ovaries and the fallopian tubes hang on the posterior face of the broad ligaments by their ligaments. Reasoning by analogy, and basing our conclusion upon the uniformity of Nature's laws, the logical inference is that the uterus is held in place by its ligaments, and, weight for weight no other organ in the body has so many ligaments.

These ligaments, moreover, are compelled to support the uterus, as is clearly demonstrated by the fact that, when the supporting power of the floor of the pelvis is absolutely destroyed by the perineum being torn clear through into the rectum, the uterus remains in place. The only exceptions to this rule are found in cases in which the uterus is displaced and dragged down by complicating conditions that overcome the resisting power of the ligaments.

In speaking of the round ligaments, he says their chief action is not suspensory, but rather to guide and limit the excursions of the fundus. In their quiescent state they hold the fundus to the front and thereby secure the impingement of the intra-abdominal pressure upon the posterior surface of the uterus. With an over-full bladder the fundus uteri is carried quite to the promontory of the sacrum and the intra-abdominal pressure is found to impinge upon the anterior surface of the uterus. The round ligaments prevent the uterus from being gradually crowded down into a permanent retro-displacement.

The main functions, the doctor says, of the broad ligament, are to furnish a support for the uterine appendages, which are hung upon its posterior face, and to furnish safe conduct to the blood vessels in their course to the uterus.

The writer next mentions the utero-sacral ligaments, whose chief purpose, if not the sole function, is to retain the uterus in its normal position. The two sets of ligaments—the utero-sacral and the utero-vesical—taken together, form a sling of tissue reaching from the promontory of the sacrum to the symphysis in which the uterus hangs suspended by their attachments just above the internal os. The utero-sacral ligaments prevent descent of the uterus as a whole, while the utero-vesicals control the to and fro, or antero-posterior, motion.

THE GYNECOLOGICAL ASPECT OF MENTAL OVERSTRAIN AT PUBERTY, AND ITS INFLUENCE ON DEVELOPMENT.

In the *Boston Medical and Surgical Journal*, of September 15th, Dr. Wm. Edgar Darnall, of Atlantic City, N.J., has an article on the above subject. He says the period of puberty is the most critical time in the whole life of the female, because this time of rapid development of both

mind and body, may be the starting point for the physical perfection of womanhood, or the first beginning of a physical wreck. The girl, at this period, is peculiarly susceptible to mental, moral and physical influences; and it is important, therefore, that her environment and tendencies should be studied with discreet carefulness.

He further remarks that the average pubescent girl is at school, and under the modern high pressure system of education, is straining every nerve to keep up with her duties. Her physical development is slighted, and what vitality she has is all used up in mental effort. The demand for rapid education is the curse of the age. From the ninth to the sixteenth year is the period of most rapid growth in height and weight, and sexual development begins. From now until the pubertal change is fully established, there may be manifestations of physical, emotional and intellectual turmoil, characterized by the various neuroses as hysteria, chorea, epilepsy, anemias, neurasthenia, etc., etc. During this time, brain weight is actually lost by the lessening of the usual blood supply to the brain, which is diverted to nourish rapidly growing organs. The child's brain is now easily fatigued, and what is acquired by a tired brain is soon lost, memory becomes impaired, vital force is required faster than it is generated; the work of to-day is done on to-morrow's credit, the system is unable to protect itself against disease and accident.

The writer points out how the physiologic processes of puberty make greater demands of the girl than they do of the boy; and, yet, in addition to performing the same work in school as her more rugged brother, her parents are not only anxious that she shall excel in the regular studies, but that she shall also acquire accomplishments, such as music and painting, at an early age. Thus overworked, robbed of rest and exercise, she fails to develop physically into perfect womanhood. Visit the female college and note how the roseate blush has been changed to the pale cheek; bright eyes dulled by brain fag, sweet temper changed into irritability, crossness and hysteria. The womanhood of our land is deteriorating physically and filling our hospitals with invalids, neurasthenics and sexual incompetents.

Continuing Dr. Darnall says the bane of the existence of the school-girl, worn out from her overwrought and overstimulated life, is dysmenorrhœa. Chapman thinks fully 75 per cent. who have reached the age of puberty would give a history of scant and painful menstruation. Engleman, in a tabulated list of 5,000 cases among schoolgirls, found 66 per cent. suffering from menstrual troubles. In 2,000 in New England schools, 75 per cent had menstrual troubles, and 90 per cent had leucorrhœa and ovarian neuralgias; 60 per cent. had to give up work for one or two days in each month. The fact of pain being increased

with hours of intensity of study, with worry and emotion, and being diminished or ceasing entirely, without treatment of any kind, during vacation time, is a fitting commentary on the underlying causes. The doctor quotes Dr. Gill Wylie as saying, "The American horse receives, on the average, better treatment than the young woman of America from the time of early girlhood until the age of development has passed. The stock breeder never forces the young animal during the period of development, realizing that it is the time the greatest care should be taken.

Concluding, the writer says as preventive measures much can be done by restricting the studies during the establishment of puberty; and, if this cannot be done, by taking her from school altogether until menstruation is established. Especial attention should be paid to regulation of home habits—avoiding excitement, late hours, parties, and many other abominations of modern society. Childhood is the time for development and growth; and, as sleep is nature's great upbuilder and restorer, children should have an abundance of it. They should be instructed and watched regarding the daily evacuation of the bowels, and the frequent emptying of the bladder. The diet should be looked after, hurried eating and eating between meals absolutely forbidden, while plenty of outdoor exercise should be engaged in.

Not until teachers and parents remember that health is more important than knowledge; not until schools realize the futility of the forcing process of education, and guard the health of their girls by diminishing rather than increasing the work of the pubescent period, not until they appreciate more fully that a sound mind depends upon a sound body, can we hope to diminish the pitiable army of suffering neurotics and sexual incompetents, who so largely constitute the womanhood of the land, and who are to be the mothers of the men of our country.

OBSTETRICS AND DISEASES OF CHILDREN.

Under the charge of D. J. EVANS, M.D., Lecturer in Obstetrics, Medical Faculty,
McGill University, Montreal.

STATUS LYMPHATICUS, WITH REPORT OF CASES.

Robert A. Biechele, M. D., in *Arch. of Ped.* July, 1904, reports three cases of typical status Lymphaticus terminating in sudden death, which have recently come under his observation.

In his introductory paragraphs, he reviews the marked findings associated with this condition. The marked hypertrophy of the thymus gland, without any particular degeneration in any of its elements, is most important. Associated with this is a general hyperplasia of all the lymphatic structures of the body. The lymph nodes of the neck, axillae,

groins and popliteal spaces may be enlarged. Adenoids are constant and enlargement of the tonsils frequent. The mesenteric and retroperitoneal nodes are usually markedly enlarged. Peyer's patches are very distinct. The spleen is usually enlarged as a result of hyperplasia of its lymphoid tissue. The kidneys may present a state of cloudy swelling with some hæmorrhagic extravasation; while the liver may present evidence of fatty degeneration. The skin presents a peculiar pallor. A most characteristic condition is a marked hypoplasia of the heart and blood vessels, particularly of the aorta and its branches.

The author then reviews the theories advanced to explain the cause of the sudden death which usually terminates these cases. The pressure theory of Grawitz, while plausible, cannot be accepted, as usually the post mortem fails to reveal any evidence of pressure.

The author is inclined to accept the view advanced by Blumer, whose observations are in accord with those of Ohlmacher and Poltauf, as thus expressed:—

“We would suggest that individuals who are subjects of the status lymphaticus are born with an instability of the mechanism regulating auto-intoxication, at any rate so far as the lymphatic apparatus is concerned, so that they are subject to intermittent attacks of lympho-toxemia, which may lead to nervous phenomena of various kinds, or may cause death from cardiac paralysis.”

While the grave type of the disease may be infrequent, the author is inclined to think that in every case of lymphatic hypertrophy there may be present the distinctive elements of the status lymphaticus. The desirability of diagnosis is evident in view of the fact that the most trivial injury, when complicated with this condition, may prove fatal.

The author's first case, unconfirmed by post-mortem examination, occurred in a female infant, aged eleven months. The symptoms were first observed at the age of six months. In the course of a slight attack of entero-colitis, she had an attack of thymus asthma and several slight convulsions. Rickets was well marked. That the thymus was enlarged, percussion over this region, with the child face downwards, made evident. There was enlargement of the tonsils, and adenoids were present. While sitting on a child's stool, the patient fell, striking the side of her face upon the floor. Convulsions followed immediately, lasting two hours. Then during three hours there was marked thymic asthma, followed by a short period of coma, then again convulsions till death ended the scene 22 hours after the trivial injury.

The second case was a male, age 22 months. Several members of the family were suffering from influenza, when the mother noticed that

the infant's temperature was elevated and typical mild influenza rapidly developed. On the second day, without premonitory symptoms, convulsions developed and continued for four hours until death supervened, thirty-five hours from the first symptom of influenza. A post-mortem revealed a thymus weighing 52 grains, enlargement of the bronchial lymph glands and of the spleen was present. The agminate glands of the ileum were very large and elevated, the mesenteric lymph glands were numerous and the size of large beans. The retroperitoneal glands were similarly enlarged. The histological examination showed a marked hyperplasia of all the lymphoid elements. There is no record as to there being any hypoplasia of the heart or blood vessels.

The third case was an infant of thirteen months, plump, happy and apparently well, except for periodic attacks of tonsillitis. Influenza developed and within 24 hours the child became convulsed and died during the third seizure. A complete post-mortem was refused but permission was given to examine the thymus which was found to be larger than in the previous case. There was present also enlarged tonsils, adenoids and an extensive hypertrophy of all the superficial glands. There was no evidence of rickets but the spleen could be readily palpated.

EXCLAMPSIA AND ITS TREATMENT.

Dr. Martin Stomar, in the *Cleveland Medical Journal*, Sept. 1904, opens his paper with a very satisfactory review of the recent literature dealing with the etiology of Exclampsia. After referring briefly to the older theories of Traube, Rosenstein and Bouchard, he dwells at length on the views advanced by Kaultenbach, Dienst and others that the convulsions are due to poisonous metabolic products of the fœtus which overtax the eliminative capacity of the maternal organism. The exact nature of these toxins is at present unknown, but that they are probably albuminous bodies finds support in the cryoscopy of the blood. Dienst has found that the fibrin content of the blood in eclamptics is increased ten fold, and that this condition obtains to a less extent in the blood of the infants from these cases. The fibrin results from the action of thrombin upon fibrinogen, the thrombin being formed by the action of certain substances entering the blood and uniting with prothrombin which is derived, as we know, from the leucocytes. It is interesting, in this connection, to note that Dienst has in these cases observed a pronounced hyper-leucocytosis in the mother's blood.

A factor of some importance in the cause of eclampsia is that the fœtal metabolic products are carried directly through the umbilical arteries to the placenta and, finally, into the hypogastric veins, vena cava

and general circulation of the mother. These foetal toxins act as a genuine blood poison and produce all those pathological changes generally found in other poisoning cases, such as cloudy swelling and fatty parenchymatous degeneration of the organs involved.

It is probable that these toxins have a distinct leucotactic tendency. The leucocytes so rapidly formed have probably less resistance, decay rapidly and may thus indirectly contribute to the formation of fibrin ferment and in that way to the extensive thrombosis so commonly found in the tissues of eclampsics.

Wiesner has advanced the view that these toxins irritate the vasoconstrictors and thus increase arterial pressure. This vascular spasm resulting in detachment of the endothelium of the intima, laceration of the small vessels and haemorrhagic exudations into the tissues would naturally result in coagulation necrosis, considering that at the same time the quantity of fibrin in the blood is increased. The oliguria and anuria associated with eclampsia can be explained by these conditions affecting the glomeruli of the kidneys.

With regard to treatment, the suggestion of Dienst seems to be of value. He claims that, with decrease of the alkalescence of the blood, the lower oxidation products of the metabolism increase; whereas, if the blood is in an alkaline state, the oxidised bodies appear as finer molecules and are more soluble; and, by thus increasing osmotic pressure, the excretion of urine is materially favored.

With this object in view, he claims to have derived benefit from a solution of bicarbonate of soda. This may be administered by mouth if the patient can drink, or by tube into the stomach and rectum if necessary.

For the treatment of convulsions, chloroform, chloral morphine, and hot baths are to be recommended. In the author's hands, venesection and prompt delivery have given the best results.

He considers that the general trend of opinion is in favor of prompt delivery, and considers in this connection the operation recently suggested by Dührssen under the name of vaginal Cæsarean section has distinct value.

He concludes his paper with the report of two cases in which he operated by this method with a satisfactory result in both. The first case, a multipara in the seventh month of pregnancy, had had seven convulsions when seen by him in consultation, and had been comatose for some hours. The cervix admitted the little finger. An incision about $4\frac{1}{2}$ inches long was made in the middle line of the posterior lip of the cervix and a more shallow one in the anterior lip. Haemorrhage was not profuse. The hand was immediately introduced into the uterus and the

child turned and delivered without difficulty in six minutes from the beginning of the operation. The placenta was removed by Credé's method and the uterine cavity packed with iodoform gauze. The incision was stitched up with cat gut and the whole operation concluded in 25 minutes.

The second case, a primipara in the eighth month of pregnancy, had five convulsions when seen in consultation. As circumstances were unfavorable for operation, she was removed early next morning to hospital and there operated on after the eighth convulsion. No anæsthetic was employed as the patient was comatose. The anterior lip of the cervix was incised in the middle line for three inches, the bladder being pushed up out of the way. Then an incision $4\frac{1}{2}$ inches long was made in the posterior lip. The child was turned and delivered in about seven minutes. Haemorrhage was not severe. Four catgut sutures united the anterior incision and six the posterior. The albumin rapidly disappeared from the urine and recovery was uneventful.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M., Professor of Ophthalmology and Otolaryngology, Medical Faculty, University of Toronto.

THE RESULTS OF THE IMPROPER TREATMENT OF SOME EYE AFFECTIONS.

G. W. Van Benschoten, in the *Providence Med. Jour.* of Nov. 1904, says, "That we learn more from our mistakes than from our successes is an old saying and certainly worthy of belief, as every medical man can testify, for in no case is a point either in diagnosis, prognosis or treatment so impressed upon us as when we are aware that an error has been made and we see wherein the fault lies. An unseen mistake however has no redeeming features, being valueless to the physician, and of course, detrimental to the patient's chances, while the same error may be repeated time and again. Medicine not being an exact science, and the human race far from infallible, mistakes are undoubtedly of frequent occurrence in medicine, as in all professions and means of a livelihood.

"It is to call attention to several diseases affecting the eyes, where mistakes in the diagnosis and treatment have been made, and so place others on their guard and prevent us from falling into the same error, that the following cases are reported."

Case 1, Mrs. C. S., gave a history of lachrymation, photophobia and pain for a week previous to visit. Examination showed the aqueous cloudy, pupil contracted, eye sensitive to touch and intensely congested, no treatment but home remedies. Vision was reduced to one quarter of the normal. Diagnosis, neglected iritis.

Case 2, Mrs. P. L.—, about three months previous to visit, had experienced severe pain, lachrymation and photophobia in right eye, fol-

lowed by the same train of symptoms in right. Outside of home remedies and prayer, had had no treatment. After being under treatment for some weeks, enucleation was advised and performed in right eye. These two cases are examples of a fairly common condition, due to neglected treatment. If proper treatment had been instituted early in the disease, the chances are they would have recovered with good vision. No one was to blame but the patients themselves.

Case 3, Mr. F. C.—, gave a history of having been hit in the eye by a foreign body, while grinding a plow share, several days before coming to consult the doctor. There was pain, lachrymation and photophobia. He had consulted a physician who had told him he had a "cold in the eye", and had given him a wash. Examination of the eye showed intense inflammation, pupil small and aqueous cloudy. Inspection showed a foreign body imbedded in the cornea. Under vigorous treatment of diagnosis on the part of the physician.

Case 4, a colored woman, stated that she had redness of the eye, pain, lachrymation and loss of vision for several weeks. She had consulted an "eye specialist", or pseudo-medical-optician, who gave her glasses and eye drops. This woman had a suppurating ulcer of the cornea with severe iritis.

Case 5, Mrs. C—, brought her baby to see what could be done by way of removing "the white spots from her eyes". When she was born, the attending physician noticed some discharge and had prescribed for it, but had not called to see it since. Examination showed a large leucoma over the centre of both corneæ. Diagnosis, neglected ophthalmia neonatorum. This case is reported to impress the importance of care and attention when there is any discharge from an infant's eyes. Ophthalmia neonatorum causes forty per cent. of all the blindness in the world. No measures for its prevention and cure should be neglected.

Case 6 was one of glaucoma, mistaken by a physician for iritis and treated as such. After iridectomy and other treatment, the vision was counting fingers in the right and partial restoration in the left. Too much care cannot be taken in the differential diagnosis of glaucoma and iritis.

Case 7 was exactly the opposite. A physician mistook iritis for glaucoma and used eserine instead of atropine.

Case 8 was one of ulceration of the cornea in which the attending physician had instilled acetate of lead solution which had deposited on the ulcer. The central vision was almost totally lost.

Case 9 was a binocular squint which had been neglected until the patient was 26 years of age, and binocular vision was lost from non-use. It cannot be too strongly insisted upon that these cases should be operated on early.

THE OPERATIVE TREATMENT OF STRABISMUS.

Wendell Reber, Philadelphia, *Penn. Med. Journal* June, 1904, believes that in cases of squint which do not yield to optical and orthopedic treatment, the following considerations should be carefully weighed before resorting to operation: 1 Hereditary influence; 2 refractive condition; 3 degree of deviation; 4 age; 5 visual acuity; status of fusion faculty; 6 outward swing of visual axis.

Reber discusses the advisability of doing a tenotomy, an advancement or both in a given case, and gives the following indications for tenotomy and advancement in adults:—

1. In monocular convergent strabismus, the advancement of the external rectus of the squinting eye if of moderate degree; combined with tenotomy of the internal rectus of the same eye if of high degree.

2. In binocular or alternating convergent strabismus advancement of both external recti if of moderate degree. In rare cases it must be combined with tenotomy of both internal recti.

3. In monocular divergent strabismus, advancement of the internal rectus and the accompanying structures, along with tenotomy of the external rectus.

4. Binocular divergent strabismus, advancement of both internal recti, and, if necessary, tenotomy of both external recti later.

5. If there is a plainly manifest upward or downward deviation of either eye, correction of such deviation by tenotomy should always precede, by a week or two, any surgery directed to the lateral muscles.

THE USE AND ABUSE OF LACHRYMAL PROBES.

Dr. George F. Suker, at the Denver meeting of the American Academy of Ophthalmology and Oto-Laryngology, Aug., 1904, read a paper on this subject, and reached the following conclusions:—That very large probes give undue pain, are liable to produce destruction of the lining membrane of the canal, are apt to produce an unduly large lachrymo-nasal canal and thus invite infection from the nose, or cause annoying influx of air into the canal on blowing the nose. They necessitate over-slitting of the canaliculus and may produce obliteration of the canalicular or nasal opening of the sac. Hemorrhages are caused in the sac and canal which are liable to become organized clots, which produce fresh strictures. The very large size of the canal is no advantage in the carrying off of the tears. Suker says the use of very large lachrymal probes is bad surgery, and advocates the infrequent use of probes of moderate size. (The editor of this department of the *Lancet* heartily agrees with

these opinions and finds that the best results are obtained by the use of injections of antiseptics and protargol in lachrymal obstruction with increased secretion. In cases of persistent obstruction, the use of a style for three or four months gives the best results).

INJURIOUS EFFECTS UPON THE EYE OF MODERN LIGHTS AND THEIR PREVENTION.

A. Staerke, of Basel, (Abstract from *Archiv. fur Augenheilkunde*, June 1904, *Annals of Ophthalm.*), experimentally determines the effects of modern lights upon the eye. He states that there are three kinds of light rays: 1, the so-called heat rays, (ultra red, invisible, dark and long undulations); 2, luminous rays with a velocity of 342 billion undulation per second, (the red, orange, yellow, green, blue and violet rays of the spectrum); 3, ultra violet rays, (invisible, of short undulation, refractive, or chemical). They exert chemical action upon silver salts and have been called chemical rays.

Conclusions.—1. The injurious effects of a light on the eye increase with the number of short undulation rays contained. 2. The various lights in use are arranged as follows, according to the proportion of short undulation rays contained, therein; a, Petroleum, b, gaslight, c, electric light, d, Auer light, e, acetyline. Petroleum light contains the fewest and is therefore the least harmful, acetyline contains the greatest number and is, therefore, the most injurious. 3. The short undulation rays can be diminished by passing them through thick glass of certain colors, the most efficient colors in this respect being gray, yellow, red and green.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville, Fellow of the British Laryngological, Rhinological and Otological Society.

CLINICAL FORMS AND TREATMENT OF CHRONIC, NON-SPECIFIC LARYNGITIS.

Albert Rualt presented a report to the French Society of Laryngology on this very common condition. A synopsis of this report appeared in the June number of the *Annals of Otology, Rhinology and Laryngology*. The report only considers inflammations confined to the mucosa. The condition is very rarely chronic at the outset, but follows acute, or sub-acute, inflammatory processes. After a number of recurrences, resolution is not complete; persistent lesions appear, and soon begin their

slow, steady progress. The importance of free nasal respiration is fully set forth, as well as the fact that a chronic inflammatory condition of the laryngeal mucosa may be caused by, or at least kept up by, suppurative conditions within the nose. Chronic bronchitis, emphysema, partly compensated valvular lesions, and progressive myocarditis may be responsible for a congestive state of the larynx which favors the appearance of persistent lesions of chronic inflammation. Functional overuse of the voice, alcohol, smoking, gout, rheumatism and irritating dust bear each a tendency, in some cases, to light up or start an attack. The treatment advocated is as follows:—

(1). Inhalation of steam or liquid sprays: For this purpose inhalers and atomizers are used. Atomizers throwing vapor into the throat are the only ones to employ in the treatment of chronic laryngitis. (The reviewer is forced to say that patients accomplish very little good by using the ordinary hand bulb atomizer, as very little of the medicine reaches the larynx. Intra-laryngeal sprays with compressed air, used by the physician himself, are much to be preferred). The best inhalants are the balsams, as balsam of Peru and benzoin, and certain oils, as eucalyptus, oil of pine with menthol. An alcoholic solution is prepared and added to water in the proportion of a teaspoonful to a glass of water. Rualt often prescribes tinct. eucalyptus, 60; tinct. benzoin, 60; oil of pine, 2; menthol, 4. The oils of myrtle, sandal wood, citron, and organum may be used, the latter only in small doses because of its irritating properties. For atomization, only aqueous solutions of substances soluble in water should be prescribed. (Atomizers throwing oil, finely divided, would seem to be more liable to reach the larynx.) Solutions of tannin, sulphate of copper and sulphate of zinc, one-fifth per cent., are of service, as astringents. As an antiseptic, the solution of choice is one of pure carbolic acid in .25, .50, or .75 per cent strength.

(2). Instillation by Laryngo-tracheal Injection.—The author is somewhat non-committal regarding this very valuable method. He prefers sterile olive oil, as the best excipient, to which may be added menthol one third per cent., or oil of eucalyptus two-sixth per cent. When the trachea is also involved, this method is the ideal one.

(3). Topical Application: According to the case the application may be made simply by contact or by friction. The useful applications are either the astringent or mildly caustic applications, or antiseptic solutions. Among these silver nitrate is the most commonly employed. Rualt has long since substituted for it chloride of zinc, weak solutions, 1 to 4 per cent., being the most useful. Sulphate of zinc and tannin act better in some cases. As a topical antiseptic, Rualt prefers phenol sulphuricinate, 10 to 30 per cent. Iodine combined with potassium iodide is also of value occasionally, scarification, curettage, chemical or thermic

cauterization may have to be employed. In all forms, attention to the general health and proper mode of living is essential. Before any line of treatment is decided upon, the condition of the upper respiratory tract must be most carefully investigated, for here is most commonly found the underlying cause of the disease situated lower down.

THE NASAL TREATMENT OF NON-SUPPURATIVE DISEASE OF THE MIDDLE EAR.

At the last meeting of the British Medical Association, Dr. Thomas Barr, in his address introducing the subject of treatment of non-suppurative disease of the middle ear, spoke as follows with reference to the nasal treatment of these cases. *Jour. Laryngology*: The propriety of operative nasal treatment in those forms of middle-ear disease has given rise to very pronounced divergence of opinion, and may almost be regarded as a burning question in our specialty. Most of us probably approve of operating upon, or otherwise removing, marked obstructions in the nasal channels. There can be no doubt that such obstructions exercise an injurious influence upon the tympano-Eustachian apparatus, first by the effect of suction during the act of swallowing; and, second, by inducing persistent or recurrent swellings of the Eustachian tube. Hence we are pretty well agreed as to the propriety of operative or other treatment for the removal of marked hypertrophies in the nasal passages, such as enlargement of the inferior turbinated body, or very pronounced septal ridges, or deflections causing considerable stenosis. Also when post-nasal adenoids exist, most of us would approve of operating without, however, expecting such brilliant results as in the case of the exudative catarrhs. Fortunately, the dry forms of middle ear deafness are comparatively uncommon in childhood. On the other hand, the existence of a small spur or knob on the septum, interfering very little or none at all with nasal breathing, and producing no special tendency to catarrhal attacks, may wisely be ignored. It is to be remembered that intra-nasal operations occasionally seem to aggravate the deafness perhaps through nervous shock, or from the entrance of blood through the Eustachian tube. There is probably unanimity as to the propriety of treating post-nasal catarrhs by the recognised methods, although it is not to be forgotten that these methods, such as the use of the nasal douche, may, in the absence of careful precautions be productive of much harm."

PROVINCE OF QUEBEC NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Windsor Mills.

The Montreal Civic Hospital for contagious diseases is again occupying the attention of the aldermen. It was thought that a solution of the difficulty had been found when in March 1903, the city agreed to support two hospitals, one for Catholics and one for Protestants, provided that the governors erected the buildings by Jan. 1905. The Roman Catholics have fulfilled their part of the contract, by adding to the proposed new Notre Dame Hospital, a building for contagious diseases. The Protestants, on the other hand, attempted to buy land for their hospital within city limits, but they met with such opposition from the owners of adjacent property that they were unable to obtain the rite until it was too late in the season to begin building operations. The Civic Hygiene Committee, having enquired into the matter, extended the contract period until Sept. 1905, seeing that \$90,000 had been expended upon the ground upon which the institution was to be built, and that there was every prospect of the work being pushed.

A very serious obstacle has proved to be the lack of funds, and a public meeting was called in order to put the question before the community. The chair was taken by Dr. Roddick who made an earnest appeal for funds. He stated that about six months ago the matter had been urged by the press, and some \$36,000 collected, an amount of course utterly inadequate. Mr. Ross then spoke upon the necessity of a hospital for contagious diseases and added point to his remarks by subscribing \$25,000. Several other subscriptions, varying from \$500 to \$1,000 were taken up at the same meeting, and committees were elected to bring this part of the plan to the individual attention of the Protestants.

At the sixtieth annual meeting of the Montreal Maternity Hospital it was announced that with \$15,000 more the new hospital which is in course of erection, would be free from debt. The gift of \$40,000, by Sir. Wm. McDonald, has enabled the management to present this very satisfactory report. The arrangement entered into last December with the Royal Victoria and General Hospitals had proved most satisfactory. Undergraduate nurses from these institutions now take a three months' course of training in obstetrical work at the Maternity Hospital and pass oral and written examinations before leaving.

Since December, twenty nurses had been received from the two hospitals. During the year there had been a total increase of ninety-five in the number of patients treated, there being three hundred and fifty-three

cases in all, besides outside cases. There were but two deaths during the year.

There was a large attendance at the annual meeting of the Montreal League for the Prevention of Tuberculosis, and many interesting speeches were made. Sir George Drummond, president, occupied the chair, and among others present were Mayor Laporte, Sir. Wm. Hingston, Drs. Lachapelle, Roddick, Adami, Dr. Williams of Sherbrooke.

The president opened the meeting by referring to the fact that tuberculosis was now recognized as a communicable, preventable and curable disease, and this being so it was the duty of every community to take steps towards its prevention. Personally, he did not think it possible to deal with it by purely voluntary efforts, but thought that the Government should carry on the work. This, however, was no excuse for doing nothing, and everyone should aid to their best ability the society that was doing the work, although so badly handicapped.

Sir. Wm. Hingston said that the public and some medical men had fallen into the error of thinking that the reporting of the disease was inquisitorial. It certainly was not. The purpose of it was to see that the disease was not spread, and that when it had carried off its victim, proper means were taken to prevent the locality becoming a centre of distribution in the future.

Mayor Laporte expressed appreciation of the work done and promised civic support in as far as he was able to promise it.

The work of the League was brought forward by Dr. Roddick. He said that the inspector had paid over 1667 visits, and 9,000 cuspidors had been distributed. Some 88 new cases had been reported since last June, and in the same time 31 had died. Steps had been taken to interest the working classes by means of literature and lectures. The work had been carried on in French as well as English. Further, the anti-spitting by-law had been brought upon the civic council. He was pleased to hear the remarks of Mayor Laporte as the League was at present getting a grant of \$700 a year, a sum which could easily be doubled, and yet Montreal would not be doing as much as some other cities.

Dr. Dube, whose duties are principally in connection with the dispensary, said that since November 7th they had examined and treated a large number of patients. The dispensary was a necessary adjunct to the other branches of the society, but unfortunately it required the lion's share of the funds. This was of necessity the case, for not only must medicine be supplied, but also food and clothing for the destitute. The greatest difficulty encountered had been the absence of places of refuge where early and hopeful cases might be successfully treated, and where advanced cases might be placed.

Some interesting light is thrown upon the heavy infantile mortality of the city when it is stated that, during 1902, there were 248 deaths of children under five years of age from meningitis, and that fully 75 of these were tubercular in origin; enquiry also proved that adults suffering from consumption had been living in the houses either at the same time or shortly before.

Dr. Williams reported briefly upon the work being done in Sherbrooke.

Dr. Hutchinson, the Medical Officer of Westmount, had warned the householders of that town against the possible repetition of what occurred last year, an outbreak of typhoid fever, owing to contamination of the water supply. The municipal engineer has reported that the ice formations on the river are assuming the same aspect as they did last year, when the sewage of Verdun was diverted into the intake of the Westmount water supply. The water company has recognized the danger and are improving the channel by means of sand bags, but Dr. Hutchinson advises the boiling of all drinking water.

The Montreal Health Officer is impressing upon the Health committee the great necessity of notifying the public to promptly call in a physician when children contract bad sore throats, as in the initial stage diphtheria is frequently looked upon as a trivial matter and is thus neglected. Dr. Laberge states that the greatest cause of deaths from diphtheria is the tardy recognition of the gravity of the malady. It is expected that the Health Committee will issue a circular to parents, in regard to the disease and its treatment.

The sum of \$6,500 was recently presented to the management of the Childrens' Memorial Hospital in the name of the school children of Montreal. The money was raised by means of a bazar which was conducted by the pupils of the Montreal Schools.

At the regular meetings of the Montreal Medico-Chirurgical Society the following papers were presented. Dr. Gillies, congenital abscess of one kidney; case reports by Dr. R. P. Campbell, anthrax; by Drs. Martin & Hardisty (1) early renal tuberculosis with calculus, (2) cancer of stomach with sudden death. A discussion followed on actinomycosis by Drs. Bell, Keenan, McEachran, Chipman, Adams and Hamilton.

At the Quarterly meeting of the Board of Governors of the Montreal General Hospital, Dr. Campbell reported that for the three months there were 829 patients treated to a conclusion, with 57 deaths, 21 of which occurred within three days of admission making the mortality for ordinary cases 4.3 per cent. In the outdoor department there were 10,235 consultations and 375 ambulance calls. Owing to the great increase of surgical work it had been necessary to appoint a permanent assistant to

Miss Tedford in the operating room. In the out-door department two special rooms were now completed and ready for use.

The 34th Annual dinner of the Faculty of Medicine of Bishop's College was held on Dec. 8th, in the Place Viger Hotel. The function proved very successful and was spoken of as one of the most enjoyable in the history of the college. Mr. G. W. Gellatly, '05, presided, and at the table of honour were: Chancellor Hamilton, Dr. England, Dr. A. McPhee, Dr. Armstrong, Dr. Perrigo, and Dr. McConnell.

The chairman proposed the health of the King, following which Dr. Wm. Burnett proposed the Alma Mater. Dr. Hamilton, in replying, regretted the absence of Dr. Campbell and Dr. Whitney. He thought that Bishop's College had long enough suffered from self effacement while McGill loomed large in the public eye. He thought the undergraduates should advertise the College more and to better advantage.

Mr. Melik Vartanian proposed Sister Universities, and delegates from Toronto, Queens, Laval and McGill, replied. Our guests was proposed by Dr. Hackett and responded to by Drs. Buller and Armstrong of McGill.

THE OYSTER AS A POSSIBLE AGENT IN THE TRANSMISSION OF TYPHOID FEVER.

In the *Medical Review of Reviews*, September 25th, Bensei, Assistant Sanitary Superintendent of New York, discusses the conditions that surround the oyster fields from which the chief American supply is drawn, and the dangers that may arise in connection with them. The most important of the oyster fisheries are carried on from small towns situated on the banks of streams that drain directly into the sea in the vicinity of the beds, and along these streams are built the houses of the fishermen with the drainage from their houses and from their primitive closets passing directly into the water. On the banks, too, are situated the sheds in which the oysters are spread out to "fatten." They are covered, at high water, by the water from these streams which is much less salt than the sea water from which they have come, and thus both before and after being caught they are exposed to all possible chances of contamination. The description is accompanied by several illustrations showing the features described.

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EDITORIAL

THE FUNCTION OF THE CÆCUM AND APPENDIX.

Of recent years a great deal has been written and spoken upon the cæcum and appendix and the opinion has often been expressed and is freely entertained by many that in the human subject these portions of the digestive canal are of no use, and are merely the degenerated remains of lower orders of animal life, in which they are important digestive organs. Sir William Macewen, of Glasgow, the eminent surgeon, chose these organs for the Huxley Lecture which he delivered a few weeks ago at Charing Cross Hospital.

Sir William Macewen is far from concurring in the teaching of many that the cæcum and appendix are little or not use in man. "One sees that the digestion in carnivorous birds and animals takes place principally in the stomach and small intestine, the cæca being rudimentary or absent; while in the herbivora the caecum is enormously developed, and in the horse the cæcum is the chief digestive organ, the stomach occupying a secondary place. Man, if not an omniverous animal, is at least a carnivorous and herbivorous one; therefore, by analogy, one would expect man to possess not only a stomach and small intestine, but also a cæcum—just as he has."

In proof of his statement that the cæcum and appendix in man are important digestive organs he mentions the fact that when the caecum has been removed the persons fall into poor health and lose flesh, and suffer from a very troublesome form of diarrhœa, alternating with constipation. When an artificial opening occurs in the caecum through which chyme and intestinal juice escapes, the person loses health; but when the opening is in the lower portion of the descending colon or in the sigmoid flexure, no such result is met with. In such cases there is very strong and positive evidence that the caecum is an important portion of the digestive system; and it may be taken that, so far as the caecum is concerned, Sir William Macewen has succeeded in proving his case.

Turning to the appendix, the distinguished lecturer also makes out a strong case in favor of its having a useful purpose in the human economy, and that it is not merely a useless vestigial remnant. He points out

the facts that it has an abundant blood supply, that it is richly filled with Lieberkühn's glands, and that as the chyme passes through the ileo-caecal valve it passes over the opening of the appendix and is thus mixed with any juice that may come from it. He expresses the opinion that an organ the size of the appendix may secrete a very material amount of digestive fluid. The anatomy and histology of the organ favors this view.

He goes on to show that its nerve supply and control is the same as for the small intestine. He also mentions the fact that the vast majority of cases of appendicitis is caused by errors in diet or trouble with the digestive organs of the dyspeptic type. These are the factors that lay the foundation for appendicitis in almost every case and enable the micro-organisms to cause such harm.

The lecturer concludes with the words, "For many years I have believed that the human caecum and appendix are of value in digestion. The facts pointing in that direction have accumulated slowly, and are not all yet garnered; many require still to be investigated. Let us sit down before facts as a child, be prepared to give up every preconceived notion, and to follow humbly wherever nature may lead."

THE TREATMENT OF GASTRIC ULCER.

From an article by Lauder Brunton we abstract the following views:—

The treatment of gastric ulcer is very largely a question of proper diet. The patient should be put in bed, and fed per rectum for some days. The time that this method of feeding should be continued depends upon the severity of the case.

Milk is the usual food to begin the stomach feeding with. But this must be given with great care at first. Milk can form bulky, hard curds that are capable of causing much irritation, or even producing relapses. One ounce of an equal mixture of milk and lime water every two hours is sufficient to begin with, in addition to the rectal feeding. The quantity is gradually increased, and the lime water, barley water, or soda water, with which the milk is being diluted, is steadily reduced as the stomach can bear the less diluted milk.

All indigestible, and rough foods should be strictly withheld. The small seeds of fruits are very injurious and irritating. Such articles as raspberries, strawberries, gooseberries and tomatoes are not suited for cases of ulcer of the stomach. The juices of these can be obtained free from the seeds, with a little effort in passing them through a fine sieve.

Meats and vegetables require the same care in their preparation for

these patients. All fibre matter must be removed. The vegetable pulp and the meat juice are alone eligible for the stomachs of those suffering from gastric ulcer. Meat fibre and vegetable cellulose may form large accumulations in the stomach, and do much harm. These fibres of meat, or vegetables, may become rolled up into balls of considerable size and hence one can see the reason for care in the case of such patients.

Albumin water and soft custard are suitable for these patients. They are both nourishing and non-irritating. Shredded fish may also be allowed in small amounts; but the utmost care must be exercised to remove all bones. A small piece of fish, or meat, bone might readily cause a relapse, a hemorrhage, or a perforation.

Any bread that is given the patient must be of the best quality and stale. New bread forms in mastication a doughy mass which the gastric juice has but little power to penetrate and digest. This is also true of cheese.

In addition to the milk and lime water, thoroughly cooked chocolate is an excellent beverage.

Too much attention cannot be paid the subject of mastication. When the food is thoroughly masticated, it is mixed much more freely with the gastric juice; and the process of digestion, to this extent, is facilitated.

A carelessly eaten meal may cause a relapse, or retard the recovery by many weeks. With proper rest and dietetic management, these cases recover in from four to eight weeks.

THE STATUS LYMPHATICUS.

In 1842, Rokitansky recognized and described a condition of ill health that accompanies enlargement of the thymus gland. This condition was often confused with tuberculosis of the lymphatic system or scrofula. The thymus gland should begin to undergo involution at birth, and should have disappeared by puberty. In some cases, however, it increases in size until adult life. Along with this thymus enlargement there is hyperplasia of the superficial and deep lymphatic glands, especially those of the neck, axilla, groin and abdomen. There is a lymphoid infiltration in many organs, such as the kidneys and arteries. This lymphoid infiltration of the arteries may be so extensive as to cause distinct narrowing of their calibres a condition described by Virchow as chloro-anæmia of lymphatic origin with constriction of the aorta.

Rickets and the status lymphaticus are closely related to each other, as almost every case of the condition shows evidences of rickets. An additional proof of the connection is found in the fact that rickets is usually

ally benefited by the administration of thymus gland. Laryngismus stridulus and convulsions may arise from disease in the thymus gland, or that condition of it which causes the status lymphaticus.

In status lymphaticus sudden death is liable to occur during or after an operation. These patients bear anæsthesia badly. Sudden death may also occur in an attack of thymic laryngismus stridulus. Persons suffering from status lymphaticus are liable to sudden death on very slight shock, such as bathing or receiving a hypodermic injection.

The diagnosis is usually made on an increased area of dulness over the thymus gland, the presence of rickets, enlargement of the neck, axillary, inguinal and abdominal glands, and the presence of naso-pharyngeal adenoids.

With regard to treatment it may be necessary to remove a portion of the thymus gland and fasten the remainder so as to relieve pressure and cure any dyspepsia that may exist. In some instances, though the gland is too large, there may be a defective amount of thymus gland excretion, and the exhibition of the gland is useful. In some cases with an over production of the active principle of the gland, benefit has been derived from adrenalin taken internally. Adenoids, of course, should be removed and this has been of great service in some cases.

THE SURGICAL TREATMENT OF BRIGHT'S DISEASE.

The chronic forms of Bright's disease are very fatal, consequently, any method of treatment which promises better results than those of the past, will be welcomed by the profession everywhere. If a disease with such a high mortality can be cured by an operation of comparatively easy execution, a great advance has certainly been made.

Two surgeons of high standing claim priority in the announcing of the surgical treatment Bright's disease to the medical profession. One of these is Dr. G. M. Edebohls, of New York, and the other is Dr. A. H. Ferguson, of Chicago. It is not our intention to deal with this aspect of the subject at present.

It takes considerable time to sift the wheat from the chaff in such a procedure as the surgical treatment of such a condition as chronic Bright's disease. With the view of bringing his experience to light, Dr. Edebohls has collected his papers and tabulated the results of his seventy-two cases in a book which has been quite recently issued. One turns naturally to this book for information.

The interesting portion of the record centres around the cases which are claimed as cured. These are seventeen in number. Ten of these are stated to have been chronic interstitial nephritis, or what is often

known as granular kidney, or chronic renal cirrhosis. Three are given as being examples of chronic diffuse nephritis. Three are mentioned as chronic parenchymatous. We must confess to some difficulty in understanding why these two latter groups are separated, as the views of leading authorities consider chronic parenchymatous and chronic diffuse nephritis as one and the same thing. One of the seventeen cured cases is set down as an instance of right chronic interstitial and left chronic diffuse. We had thought the etiology and pathology of these conditions were so different that they could not occur in the same person.

Of the seventeen cases, sixteen are females. Among these sixteen females the entire ten instances of the interstitial form are found. This is most remarkable, as the usual experience is to find at least two cases among males to one among females. The only case given as in a male is the composite one of right chronic interstitial and left chronic diffuse.

The ages of the cases are 18, 25, 20, 30, 45, 22, 19, 31, 33, 39, 44, 34, 36, 27, 36, 23 and 38 years. The solitary case in a male was 36. This is a decidedly young average for a series of cases of interstitial nephritis or granular kidney, especially when all the examples of this type occur in the female subject. The great majority of cases of cirrhosis of the kidney are met with in persons over 40 years of age, the disease generally appearing between 40 and 60.

Of the seventeen cases claimed as cured, sixteen are females. It is well known that in women the kidneys may reveal post mortem changes that did not cause any symptoms of Bright's disease during life. There may have been some nephritis of pregnancy, or the kidneys may have been more or less movable with thickish capsule. Such cases should not be called interstitial nephritis.

Let us now take up the ten cases of interstitial nephritis reported as cured. No. 1 presented "pallor and puffiness of the face, slight œdema of the extremities, and moderate cardiac hypertrophy, the presence of albumin, hyaline, granular and epitheliated casts, lowered specific gravity and urea per cent. The right kidney was movable and was the only one operated upon." No. 4 is described thus, "Complexion slabby and doughy; feet slightly œdematous. Marked accentuation of all heart sounds. Both kidneys prolapsed." No. 6 had, "Marked pallor and puffiness of face, slight swelling of ankles. Heart sounds strong; no murmur. Decided arterial tension. Right and left kidneys movable. Albumin present." No. 7 was "Pale, nœmic, and slightly puffy about the face and ankles. Heart sounds normal. High-tension pulse. Both kidneys prolapsed. Chronic appendicitis. Albumin and casts." No. 8 had "Pallor and extreme emaciation and feebleness. No œdema. Heart normal. Slight arteriosclerosis. Both kidneys movable and albumin and casts. Chronic appendicitis." No. 12 revealed "Loud sys-

toxic bruit over left ventricle; augmented arterial tension. Albumin and casts. Both kidneys movable." No. 13, "Heart sounds good; increased arterial tension. Both kidneys movable. Albumin and casts." No. 15, "Patient pale and emaciated. Slight œdema of ankles. Heart sounds normal; moderately increased arterial tension. Both kidneys movable. Chronic appendicitis. Pregnant. Tumour of left ovary. Albumin and casts." No. 23, "A frail, nervous, little woman, pale and careworn. Lower extremities moderately œdematous. Decided cardiac hypertrophy, with mitral regurgitant murmur. General arteriosclerosis. Right kidney movable. Albumin and casts." No. 55, "Slight puffiness of eyelids; otherwise no œdema. Heart normal; arteries a little hard. Both kidneys movable. Chronic appendicitis. Albumin and casts."

In the above ten cases, all females, we utterly fail to see any evidence to justify the diagnosis of interstitial nephritis in any one of them, much less in all the ten. Dr. Edebohl's work, therefore, in our judgment, falls far short of being convincing in this form of Bright's disease.

HALLUCINATIONS.

Long ago, Esquirol taught that hallucinations were central in origin and projected outward. This view made hallucinations a question of ideas or memory images. This definition has found favor with many eminent alienists, such as Tuke, Kellog, Krant-Ebing, etc.

But to this view there began to be dissenting voices. An idea or a memory image is not a sensation; a hallucination is clearly a sensation, if it is anything. Further, sensations are not carried centrifugally. They must be conveyed inward or centripetally; and it is only the thought of them that can be referred to the external world, from whence sensations come.

This lays the foundation for the more recent and accurate views of the pathogenesis of hallucinations. They are sensations and must arise in sensory nerves, being transmitted from the place of origin to some perceptive centre. It will at once appear from this that hallucinations of hearing, are due to some morbid condition of the auditory nerve, or the structures in connection with it. In like manner, the other sensory organs may be affected.

Sensations so originated may be wrongly interpreted by a diseased brain, or sensory perceptive centre. Thus, a ringing in the ear may be regarded as a voice, and in turn, as the voice of an enemy. Here we have a sound, caused by some abnormal state of the auditory apparatus, passing centripetally to the brain, there being regarded as something

quite different from what it really is, and, finally, being projected outward according to well-known physiological laws.

For the production of hallucinations there must be the sensory elements and a false interpretation of these through some central derangement. The mental condition in hallucinations and illusions are the same; but the sensuous conditions differ in that in the former the sensation arises in the sense organ itself; whereas, in the case of illusions, there is some external object acting upon the sense organ, and not a mere state of them.

There must be a certain mental derangement. Many persons suffer with tinnitus aurium who are not the victims of hallucinations. When, however, the brain is diseased, as well as a morbid state of the auditory mechanism, the tinnitus may become voices, or other specialized sounds. It is thus clear that hallucinations arise in the sensory organs, the impressions are conveyed inwards to the brain, and thence projected outward to the external world. Along with the above views of Bechterew, must be stated those of Sir W. R. Gowers, who holds very firmly to the opinion that in subjective sensations of light and sound the cerebral cortex plays a very important part. He holds that the character of labyrinthine sounds is to a large extent influenced by the cerebral centre. In other words, that derangement of the special senses will not give rise to true hallucinations, unless there be also some accompanying derangement of the cortex.

MEDICAL PRACTICE IN CHINA.

The Chinese claim great antiquity for the system of medicine, which is founded on the belief that disease is caused by evil spirits, and, as a last resort, may be cured by exorcism. There has, as a consequence, grown up in the Chinese practice of medicine a vast amount of fraud. In the midst of all this, however, there is a certain knowledge of the uses of some of the native drugs, the cautery and counter irritation.

The Chinese have some very ancient works on medicine, some of which are said to have been written before the beginning of the Christian era. A work was written on the pulse in the third century, and a commentary on some questions of a difficult nature about the same date. Prior to the fourteenth century, works of a most voluminous character were compiled on diseases of women, of the eye, of the vessels, of the intestines, on fevers, wounds, amputations, and midwifery. About the fifteenth or sixteenth centuries there were written several most elaborate treatises. One of these, on general medicine, contained a hundred and sixty volumes, another set of over fifty volumes on drugs, and a third on fevers, children's diseases, women's diseases, etc., of one hundred and

twenty volumes. With all our modern systems and encyclopedias, we are not more burdened than the ancient Chinese doctor. Of more recent date there are some ponderous collections of writings on every possible topic. Running through all the Chinese writings on medical subjects there is an utter absence of any desire for investigation or a search for truth. That which is most mysterious or least known is most praised and valued.

There is no knowledge in Chinese medicine of anatomy, physiology, or chemistry. Man is supposed to be made of five elements, namely fire, water, metal, wood and earth. There are various senses and viscera. There are mysterious powers that govern these. Disease is regarded as some derangement in these elements and powers.

The foundation of all diagnosis in Chinese medicine rests on a knowledge of the pulse, of which there are twelve kinds, six on each side, three above and three below each wrist. Though this is the case, the Chinese have no knowledge of the circulation, nor do they make any distinction between the veins and the arteries. The Chinese feel great contempt for the foreign doctor who feels the pulse on only one side. The following words of Mrs. J. F. Bishop, F.R.G.S., in a recent issue of the *Buffalo Medical Journal*, is very interesting:—

“Each season of the year has its proper pulse. In the first and second moons the pulse of the liver, answering to wood is ‘long and tremulous’; in the fourth and fifth the pulse of the heart corresponding to fire, is ‘overflowing;’ and in the third, sixth, ninth and twelfth, the pulse of the stomach, which answers to earth, should be ‘slow and full.’ Metals govern the seventh and eight moons, and the pulse of the lungs, which answers to them, is ‘slender superficial, short and sharp?’ In the tenth and eleventh moons, water reigns, and the pulse of the kidneys, corresponding thereto, is ‘deep and slender.’ An important axiom on the pulse is: ‘In Spring to have the pulse of the lungs is mortal,’ the pulse of the heart being set aside, ‘for the heart is the son of the liver, which has the kidneys for its mother and the stomach for its wife.’”

The list of remedies is a very long one, and includes articles from plants, animals, birds, reptiles, worms and a few minerals. These prescriptions are characterized by a marvelous complexity. One work on *materia medica* gives about two thousand such formulæ.

There is no surgery among the Chinese. They know nothing about amputations, the arrest of hæmorrhage, the tying of an artery, the setting of a fracture, or the reduction of a dislocation. There is some use made of the cautery, and one way of employing it is the burning of a small piece of wood on the part to be treated. Acupuncture is also used. A large, dirty, rusty needle, or such like, is driven into the diseased part, which may be a joint, the liver, or, indeed, any organ. Death often re-

sults. Counter irritation is sometimes obtained by a mixture of corrosive sublimate, arsenic, salt and gluten, which is dried into "nails" and pushed into the flesh.

Vaccination has now become a common practice, but the lymph is usually inserted into the nostril.

The obstetric practice among the celestials is entirely in the hands of ignorant women, and the mortality is said to be about 20 per cent.

As there are no colleges, so there are no licenses nor restrictions. There are different grades of doctor, from those who practise among the rich down to the coolie. Fees vary greatly. If the patient be a lady, the doctor does not see her, but examines the twelve pulses carefully from behind a bamboo screen. . Having thus made his diagnosis he prescribes for the patient.

In all cases of mental diseases the sorcerer, or witch doctor, is consulted.

The one bright spot in Chinese medicine is the claim that mercury has been used in the treatment of syphilis for at least four thousand years.

MORTALITY IN ONTARIO.

The Secretary to the Provincial Board of Health has issued a statement for the month of October, which upon the whole is satisfactory. It shows that, though the population returned is 10,000 over the same period a year ago, the deaths were less by 31. There is a decrease in all the infectious diseases, with the exception of typhoid fever. The death rate for October 1904, was 12 per thousand, as compared with 12.2 for October 1903.

There was only one case of small pox for the month. There were 177 cases of scarlet fever with 10 deaths. There were 239 cases of diphtheria and a mortality of 34, or over 12 per cent.

We think that this death rate in diphtheria is too high. In cases it may be impossible to employ anti-toxine on account of the price and the circumstances of the patients; but feel that if this potent remedy was used early and freely the death rate would be very decidedly cut down.

Attention is very properly drawn to the pollution of water supplies by their contamination by sewage from the growing villages and towns throughout the Province. The advice is given that the water should be filtered, and that the supplies for towns and villages should be periodically inspected.

The Secretary, Dr. Hodgetts, is giving very close attention to all questions of the health of the Province and we expect good results from his work.

THE PROGNOSIS OF EPILEPSY.

Much has been said and written upon epilepsy. The medical and surgical treatment of the disease has been the subject of a great deal of study and investigation; but the general prognosis of the disease remains about the same as it was before the more recent methods of treatment.

Dr. William A. Turner has an interesting and instructive paper? on this topic in the December issue of the *Edinburgh Medical Journal*. In it he shows that prior to the use of the bromides Hufeland claimed 5 per cen. of cures; Russell Reynolds, 10 per cent.; Trousseau, 13 per cent.; Herpin, 50 per cent. Since the introduction of the bromides the following results have been claimed. Nothnagel, 5 per cent.; Sparring, 5; Lähr, 6; Ackermann, 7; Dana, 5 to 10; Wildermuth, 8; Habermaas, 10; and Alt, 12. Some of the differences in these statistics is due to the facts that organic disease may have not been excluded in some of the records, or that the time limit of freedom from recurrences varied.

With regard to sex there does not appear to be much difference with regard to prognosis. "Rather more males than females show arrest of the seizures, but the former sex gives a greater number of confirmed cases." A larger percentage of women escapes the deteriorating influence of epilepsy upon the mind than men, but when dementia sets in there is a higher percentage of women affected. With regard to men the most frequent mental impairment is loss of memory and the higher mental faculties.

The following conclusions are drawn from the study of hereditary influences. There is as much chance of arrest of the attacks in those with a family history of epilepsy as in those without such a taint. In those with a hereditary history, the chances for arrest, improvement, or the disease becoming confirmed, are equal in any given case. As regards improvement there is a larger percentage among those without the history of heredity, whereas among those with an inherited tendency there are more confirmed cases. A family history of epilepsy and insanity does not, therefore, lessen the chances of arrest in some cases; but, on the other, the number of confirmed cases will be greater.

With regard to age it may be mentioned that those beginning under 10 years, yield few instances of arrest, and many of the confirmed form of the disease; whereas among those commencing at puberty, the opposite is true. Cases beginning between 20 and 35 years of age, give few arrests and many confirmed cases. Those beginning after 35 are more favorable, especially in old age.

The duration the disease has lasted has an influence on prognosis. The longer the disease has existed before treatment is commenced the less favorable the results, as to arrest or improvement, and the larger

will be the percentage of confirmed cases. The longer the disease has existed, the more pronounced will be the mental deterioration even should arrest take place under treatment.

The less frequent the seizures, the better prognosis as to arrest or improvement and the preservation of the mental faculties. The more frequent the attacks, the more frequent and profound the dementia, as a general rule. In cases where the attacks are very frequent, it is very difficult to secure even a slight arrest in their frequency or violence.

Grand mal cases are more favorable than *petit mal* cases. It is very difficult to secure arrest in the latter form of epilepsy. Mental failure is more likely to occur in *petit mal* cases than in those with *grand mal*. In some instances the mind is least affected in a few cases of *petit mal*, while it was most profoundly affected in cases with a combination of *grand* and *petit mal*.

In some instances there may be a very long interval of freedom from attacks, followed by recurrence. There are some genuine examples of cure. Russell Reynolds gives 10 per cent. as free for 4 to 8 years; Habermaas, 10.3 per cent., for 5 to 10 years; and Turner, 10.2 per cent. for 9 years.

THE TREATMENT AND REFORMATION OF INEBRIATES.

At a recent meeting of the Society for the Reformation of Inebriates, held in the Government House, there was a good attendance of those interested in the movement. A constitution for the Society was adopted. There was considerable discussion on some of the proposals submitted, especially with regard to lengthy commitments. It would seem as if this Society is destined to accomplish some useful reforms.

The following recommendations are also respectfully submitted:—

1. That in this inebriate reform movement the kind co-operation of the Inspectors of Prisons and Charities be respectfully requested.

2. That the attention of the medical members of the Ontario Legislature as well as that of other private members of the House be called to the inebriate reform question and their influence requested in favor of adequate provision being made in this Province for the reformation of indigent inebriates.

3. That an interview with the Premier and Provincial Secretary be requested as soon as may be considered advisable for the discussion of the following: (a) An annual grant to this Society to promote the inebriates reform movement. (b) The introduction of the proposed Bill or one on similar lines, for the economical treatment of indigent inebriates, at the next Session of the Ontario Legislature. (c) For the purpose of being able to make use of the same as an object lesson, in the meantime,

the immediate introduction (at the outset on a small scale) of the probation system.

4. That the Toronto Board of Control be asked to co-operate with the Ontario Government in the early introduction of the probation system for the reformation of indigent inebriates and that the Prisoners' Aid Association and the Toronto City Mission be asked to co-operate in the care and supervision of inebriates placed on probation on suspended sentences.

5. That the County Judges and Police Magistrates of the Province be requested to co-operate in the introduction of the probation system and also to consider the propriety of imposing longer sentences in the case of confirmed drunkards—more especially in the case of degraded female drunkards having a long Police Court record.

PERSONAL AND NEWS ITEMS.

Dr. Dougald McBain has decided to locate in St. Thomas, Ont.

Dr. Perry G. Goldsmith, of Belleville, has been ill for some time with typhoid fever, but is now making a good recovery.

Dr. Rogers and wife of Ingersoll, have arrived home from a sojourn of a few months in Great Britain, looking quite well after their absence.

Dr. and Mrs. L. F. Millar, late of Brunswick avenue, left Toronto in the latter part of November for Southern California. They will spend the winter in Pasadena, returning in April.

The marriage of Miss Clara Clarke eldest daughter of Mr. W. A. Clarke to Dr. Morley Currie, B.A., M.P.P., of Picton, was celebrated at the residence of the bride's parents in Avenue road, Toronto, Nov. 23.

About fifty relatives and friends assembled in the home of Mr. E. P. Roden, 123 Dovercourt road, Toronto, on 7th December, to witness the marriage of his second daughter, Miss Eva P. Roden, to Dr. R. W. Irving, of Gananoque.

Dr. Charles E. Treble has returned home after an extended period of post-graduate study in Great Britain. Dr. Treble is a graduate of Toronto University, and while in London attained to the double qualification of M.R.C.S., England, and L.R.C.P., London.

Dr. A. Lesage has been notified by the French Government that he has been decorated officer of the French Academy, and Dr. A. Foucher as officer of Public Instruction, for their work in organizing a convention of French doctors in America. Both doctors live in Montreal.

Dr. Ernest Curran, who has been taking a post graduate course at Edinburgh since last spring, successfully passed his examinations for the diploma of L.R.C.P.&S., Edinburgh. He will probably not return home till next year, taking a course in the London hospitals meantime.

RESULTS OF EXAMINATIONS OF THE COLLEGE OF PHYSICIANS.

The results of the final, intermediate and preliminary examinations held in November of the College of Physicians and Surgeons of Ontario are:—

The following passed the final examination: J. A. Anderson, Smit's Falls; A. H. Adams, Whitby; J. V. Brown, Barrie; R. M. Boyd, Crookston; H. H. Bleecker, Trenton; T. Carson, Orangeville; A. H. Campbell, Ailsa Craig; D. J. Cochrane, Durham; A. W. Canfield, Woodstock; M. Caverly, Albion; H. W. Coulter, Ottawa; J. W. Cook, Strathroy; M. H. Embree, Toronto; W. S. Fawns, Udora; J. Ferguson, J. G. Fitzgerald, Harriston; R. J. Gardiner, Smith's Falls; J. F. Goodchild, Craigeleith; B. H. Hamilton, Auburn; L. R. Hess, Hamilton; R. Ingram, Ridgetown; D. S. Johnston, Orillia; A. C. C. Johnson, Toronto; D. Kappel, Hamilton; F. Large, Listowel; W. A. Lawrence, Ithaca, N.Y., H. H. Murphy, Antrim; C. M. McKay, Woodstock; H. G. McLay, Aylmer; D. W. McKechnie, Dundas; F. C. Neal, Walton; J. M. Park, Abingdon; J. M. Robb, Blind River; N. H. Sutton, Ida; D. M. Sutherland, Norwich; W. E. Somers, Waterford; N. F. Sutton, Maynooth; A. A. J. Simpson, Whitechurch; D. J. Sweeney, Caledon; T. J. C. Tindle, Peterboro'; C. E. Treble, Toronto; J. H. Tandy, Kingston; W. S. Turnbull, Milverton; T. D. White, Brantford.

The following passed the intermediate examination: G. B. Archer, Campbellford; W. A. Burr, Fergus; G. H. Bleecker, Trenton; R. M. Boyd, Crookston; R. S. Conboy, Toronto; H. W. Coulter, Ottawa; J. W. Cook, Strathroy; D. Evans, Virginia; F. S. Eaton, Freeland; James Fettes, Yeoville; R. J. Gardiner, Smith's Falls; W. Gibson, Emerald; J. F. Goodchild, Craigeleith; J. C. Gormley, Finch; A. A. Jackson, Toronto; A. M. Kennedy, Barrie; J. S. LeDrew, Toronto; J. B. Larocque, Ayr; H. H. Murphy, Antrim; H. G. McLay, Aylmer; D. W. McKechnie, Dundas; J. P. McKinnon, Hillsburg; W. G. Reive, Markham; A. E. Stewart, Ruthven; D. J. Sweeney, Caledon; J. H. Tandy, Kingston; W. S. Turnbull, Milverton; K. H. VanNorman, Toronto; J. A. Wright, London; O. M. Wilson, Ottawa.

The following passed the primary examination: W. Bethune, Hamilton; D. Black, Toronto; R. M. Boyd, Crookston; M. Caverly, Albion; R. O. Coghlan, Wyoming; V. E. Cartwright, Aldershot; R. G. Carson, Sunderland; R. J. Gardiner, Smith's Falls; J. F. Goodchild, Craigeleith; J. C. Gormley, Finch; M. Galbraith, Mount Forest; H. Glendenning, Vallentyne; R. L. Hutton, Brantford; R. E. Hughes, Ottawa; T. R. Henry, Harriston; G. O. Ireland, Toronto; W. H. Keen, St. Mary's; C. A. Langmaid, Bowmanville; O. K. Lang, Granton; Cora Murdoch, Sarnia; H. H. Murphy, Antrim; S. J. Magwood, Toronto; D. F. McLachlan, Glencoe; A. J. McComb, Trenton; P. J. McCue, Toronto; D. W. McKechnie, Dundas; C. R. Newman, Dunnville; W. C. Pratt, Petrolea; E. C. A. Reynolds, Scareboro Junction; J. R. Serson, Morpeth; H. A. Stewart, St. Thomas; O. M. Wilson, Ottawa; R. E. Wodehouse, Blenheim; R. A. Williams, Ingersoll.

OBITUARY.

HENRY PIGEON, M. D.

Dr. Henry Pigeon died very suddenly at his home, Charlotte Street, Peterborough, 7th December. He had been ill for a few days from a cold, but gradually improved. His heart, however, became violently affected, and death resulted. Dr. Pigeon was born in Gloucestershire, England, 65 years ago, and had been practising in Peterborough for upwards of 21 years. Dr. Pigeon was twice married, and is survived by a widow, four sons and one daughter.

ROBERT MORRIS, M.D.

Dr. Robert Morris, one of Ogdensburg's oldest and most highly respected citizens, passed away 18th November, after a long illness. Dr. Morris was a man possessed of wonderful degree of vitality and energy of both mind and body. He was aged 94. For many years he was the principal physician and surgeon of the city. He was a gentleman of the old school and his kindly manner and sincere interest in all persons with whom he came in contact won for him the esteem of all. The city's educational interests were always of much importance to him.

D. C. MacCALLUM, M.D.

Dr. Duncan Campbell MacCallum, one of the oldest and most prominent physicians of Montreal died on 13th November, in his 81st year.

For more than a quarter century he was connected with the medical staff of McGill University, and at the time of his death was emeritus professor in the faculty.

The late Dr. MacCallum was born at Isle aux Noix, Que., November 12, 1825. He pursued his medical studies at McGill University and graduated M.D., in 1850. He continued them in London, Edinburgh, and Dublin, and was admitted M.R.C.S., Eng., 1851.

Returning to Canada, he entered on the practice of his profession in Montreal and was appointed demonstrator of anatomy in McGill University in 1854. From that time until 1883 he was connected with the university, occupying various positions in the faculty of medicine. In August, 1856, he was preferred to the chair of clinical surgery. In November, 1860, he was transferred to the chair of clinical medicine and medical jurisprudence, and in April, 1868, received the appointment of professor of midwifery and the diseases of women and children, which position he held until his resignation in 1883, on which occasion the governors of the university appointed him professor emeritus, retaining his precedence in the university.

For upwards of thirty years he was actively engaged in the teaching of his profession. He was elected visiting physician to the Montreal General Hospital, February, 1856. He discharged the duties of that position until 1877, when he resigned, and was placed on the consulting staff. From 1868 until 1883 he had charge of the university lying-in hospital, and for a period of fourteen years he was physician to the Hervey Institute for children.

Dr. MacCallum always took a warm interest in the literature of his profession, and articles from his pen appeared in the British Medical, and Surgical Journal, and the Canadian Medical Journal. In 1854 he, in conjunction with Dr. Wm. Wright, established and edited the Medical Chronical, which had an existence of six years. He published in 1901, for private distribution, his addresses delivered at various functions. His essay, printed in the McGill University Magazine last year, "Reminiscences of the Medical School of McGill University, also attracted a great deal of attention.

In October, 1867, Dr. MacCallum married Mary Josephine, daughter of the late Hon. Hypolite Guy, a judge of the Superior Court of Quebec. He leaves his wife and five children, four daughters, Mrs. T. Starkey, Mrs. L. Desbarats, Mrs. D. Shepherd, Miss MacCallum, and one son, Duncan Guy MacCallum, a student in the medical faculty, McGill.

BOOK REVIEWS.

DWIGHT'S EPITOME OF TOXICOLOGY.

A Manual for Students and Practitioners. By E. W. Dwight, M.D., Instructor in Legal Medicine, Harvard University. In one 12mo volume of 298 pages. Cloth, \$1.00, net. Lea's Series of Medical Epitomes. Edited by V. C. Pedersen, M.D. Lea Brothers & Co., Publishers, Philadelphia, and New York, 1904.

This little volume is the outcome of a persistent demand for a small, compendious manual covering the essentials of Toxicology. One that shall be trustworthy and modern, adapted to the needs of medical students and practitioners, and withal at a moderate price. The author has produced a book which is in every way a companion to his "Epitome of Medical Jurisprudence," and stronger commendation than this could not well be given. The physician who has mastered the contents of these two small volumes is indeed well equipped for almost any medico-legal emergency, and the student who uses them as his text-books has started on the shortest and easiest route to a thorough grounding in an essential part of his medical education.

Some idea of the thoroughness with which the author has covered his subject may be obtained from the following brief of contents. After a section on the general principles of Toxicology the subjects are taken up as follows: Irritant Poisons; Specific Irritants; Metallic Irritants; Vegetable Irritants; Animal Irritants; Poisonous Foods; Cerebral Neurotics; Spinal and Cerebro-spinal Neurotics; Depressants; Asthenics; Ptomaines, etc.

While the volume is not intended and could not be expected to cover the ground exhaustively, the amount of definite and essential information which the author has so clearly presented is surprising and satisfying.

VON BERGMANN'S SURGERY.

A System of Practical Surgery. Drs. E. von Bergmann, of Berlin, P. von Bruns of Tübingen and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University), New York. Complete work now ready, in five imperial octavo volumes, containing 4220 pages, 1976 engravings and 102 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, \$6.00; leather, \$7.00; half morocco, \$8.50, net. Volume V just ready. 789 pages, 354 engravings, 23 plates. Lea Brothers & Co., Publishers, Philadelphia and New York.

This volume completes the most important System of Surgery that has recently appeared. It is based upon the second German edition, carefully revised and brought thoroughly up to date. The translation and revision has been done by Dr. Bull and his collaborators with great

fidelity and thoroughness. They have brought to their work not only enthusiasm and faithful effort, but also a wide surgical experience which enabled them to add judicious and helpful references to methods of practice which have gained the preference of English and American surgeons. The work is encyclopedic in character, many of its chapters exceeding in scope and detail special treatises which have been published on their subjects. The following brief outline will give some idea of the scope of the several volumes:

Volume I.—936 pages, with 361 engravings and 18 plates—covers the following subjects; Injuries and Diseases of the Skull and its Contents; Malformations, Injuries and Diseases of the Ear; of the Face (including Plastic Operations and the Neuralgias of the Head); of the Salivary Glands (including Anomalies); of the Jaw; of the Nose and its Adjacent Tissues; of the Mouth and of the Pharynx.

Volume II.—820 pages, with 321 engravings and 24 plates—Malformations, Injuries and Diseases of the Neck, Larynx, Trachea, Mammary Gland, Vertebral Column, the Thyroid Gland, the Thorax and its contents, the Spinal Cord, etc.

Volume III.—918 pages, 595 engravings and 21 plates—Malformations, Injuries and Diseases of the Shoulder and Upper Arm, Elbow, Fore-Arm, Wrist, Hand, Hip, Thigh, Knee, Leg, Ankle, Foot, etc.

Volume IV.—757 pages, 345 engravings and 16 plates—Malformations, Injuries and Diseases of the Œsophagus, Stomach and Intestines; Injuries and Diseases of the Abdominal Wall, the Peritoneum, the Liver and Biliary Passages, the Spleen and Pancreas; Hernia; Laparotomy.

Volume V.—789 pages, 354 engravings and 23 plates—Malformations, Injuries and Diseases of the Pelvis, the Anus and Rectum, the Urethra, the Penis. Abnormalities, Injuries and Diseases of the Kidneys and Ureter, the Bladder and Prostate, the Scrotum, Testicles, Vas Deferens and Seminal Vesicle, etc.

The complete work comprises five very handsome octavo volumes, containing 4,220 pages, 1,976 engravings and 102 full-page plates in colors and monochrome. The great value of the work lies in its practical and clinical character. This is supported by an abundance of pathological data, details of original research, and statistical facts which render the work of inestimable value to the student, the surgeon and the general practitioner. These five volumes constitute a complete working library on Surgery, and modern progress is so rapid and so solidly founded, that every surgeon, as well as every physician who has occasional surgery to perform, owes it to himself and to his patients to add this work to his shelves.

MEDICAL LATIN.

A Compend of Medical Latin, designed expressly for elementary training of medical students. By W. T. St. Clair, M.A., Professor of the Latin Language and Literature in the Male High School of Louisville, Kentucky; Author of "Caesar for Beginners," etc. Second edition. P. Blakiston's Sons & Co., Philadelphia. Price \$1.00.

This belongs to the well-known quiz compend series. It contains the Latin words required in the study of medicine. The subject is made simple and clear for the beginner. The book is well arranged and will prove very useful to those for whom it is designed. The knowledge of the Latin Language as required by the physician is too much neglected. We can recommend this little book very highly.

 ESSENTIALS OF MATERIA MEDICA AND PRESCRIPTION WRITING.

By Henry Morris, M.D., College of Physicians, Philadelphia. Sixth edition, thoroughly revised. By W. A. Bastedo, Ph. G., M.D., Tutor of Materia Medica and Pharmacology at the Columbia University (College of Physicians and Surgeons), New York City. 12mo volume of 295 pages. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$1.00 net. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

Dr. Bastedo, in making the revision of Dr. Morris' "Essentials of Materia Medica," has furnished the student with a work complete and up to date in every particular. Much of the text has been in great part rewritten. There have been introduced articles on adrenalin, stypticin, and on the iodine and silver synthetics. The present sixth edition is all that could be desired.

DISEASES OF THE NOSE, THROAT, AND EAR AND THEIR ACCESSORY CAVITIES.

By Seth Scott Bishop, M.D., D.C.L., LL.D., Author of "The Ear and its Diseases"; Honorary President of the Faculty and Professor of Diseases of the Nose, Throat and Ear in the Illinois Medical College; Professor in the Chicago Post-graduate Medical School and Hospital; Surgeon to the Post-graduate Hospital and to the Illinois Hospital; Consulting Surgeon to the Mary Thompson Hospital, to the Illinois Masonic Orphans' Home, and to the Silver Cross Hospital of Joliet, etc. Third edition. Thoroughly revised, rearranged and enlarged. Illustrated with 94 colored lithographs and 230 additional illustrations. 564 pages, royal octavo. Price, extra cloth, \$4.00, net; sheep, or half-russia, \$5.00, net. F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia.

The third edition of this work is along the lines of the previous ones. It is a work that appeals particularly to students and general practitioners. For very full information is given on the use of instruments and examinations of patients. Very little space is taken up on the anatomy as this

matter may be gained elsewhere and as a matter of fact should have been mastered before this book is taken up. The illustrations are very numerous, Politzer being the source of most of those on the membranous tympani. The illustration on page 493 might have been omitted, and more space given to the diseases of the accessory nasal sinuses. The work is easy to read and will be found very helpful to those for whom it is especially written.

ESSENTIALS OF MEDICAL CHEMISTRY.

Containing also questions on Medical Physics, Chemical Philosophy, Medical Processes, Toxicology, etc. By Lawrence Wolff, M.D., formerly Demonstrator of Chemistry at Jefferson Medical College, Philadelphia. Sixth edition, thoroughly revised. By A. Ferree Witmer, Ph. G., formerly Assistant Demonstrator in Physiology at the University of Pennsylvania. 12mo volume of 225 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth \$1.00 net. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

We need but mention the fact that this little work has reached its sixth edition to prove beyond question its practical usefulness. The recent important discoveries in physics and inorganic chemistry have rendered it necessary, in Dr. Witmer's revision, to make extensive additions almost to every part of the work. The subject of organic chemistry, especially organotherapy and the substituted ammonias, has also been carefully revised and much new matter added. We find the book unusually excellent.

HARE'S PRACTICAL THERAPEUTICS.

A Text-Book of Practical Therapeutics: With Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis. By Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. With special chapters by Drs. G. E. de Schweinitz, Edward Martin and Barton C. Hirst. New (10th) edition, much enlarged, thoroughly revised and largely re-written. Octavo, 908 pages, with 113 engravings and 4 full-page colored plates. Cloth, \$4.00 net; leather, \$5.00 net; half morocco, \$5.50, net. Lea Brothers & Co., Publishers. Philadelphia and New York, 1904.

This very convenient, comprehensive, trustworthy, popular and widely used work on Therapeutics requires little introduction to the medical profession or the student world. The demand which has necessitated in a little more than a decade, ten editions and three times as many printings is readily understood upon an examination of the volume.

Every new edition means a complete revision, which in the present issue has been so thorough that the entire work has been reset in new type.

Every discovery of worth, every really useful new remedy or method of treatment is clearly set down with telling illustrations wherever needed. *Hare's Practical Therapeutics* has come to be synonymous with up-to-date knowledge of treatment, medicinal or otherwise.

The ingenious arrangement of the volume having proved so popular has not been changed, and although the new matter and new illustrations have resulted in a considerable enlargement of the volume the certainty of a still wider usage, has enabled the publishers to issue it without increase of price.

ESSENTIALS OF NERVOUS DISEASES AND INSANITY.

Their Symptoms and Treatment. By John C. Shaw, M.D., late Clinical Professor of Diseases of the Mind and Nervous System, Long Island College, Hospital Medical School. Fourth edition, thoroughly revised. By Smith Ely Jelliffe, Ph. G., M.D., Clinical Assistant, Columbia University, Department of Neurology; Visiting Neurologist, City Hospital, New York. 12mo volume of 196 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1904. Cloth, \$1 net. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

Of the progress made in every branch of medicine during the last few years, none has been more prominent than that considering diseases of the nervous system and of the mind. Dr. Smith Ely Jelliffe, therefore, in making the revision for this new fourth edition, has found it necessary to recast the work entirely, bringing the order of arrangement in accord with the present knowledge of these important subjects. Quite a commendable change in arrangement is the grouping of subjects in such a way as to bring out the natural relations of affiliated nervous disorders. This will be found of great service to the student.

In the section on disorders of the mind, the general views of such leading psychologists as Ziehen, Weygandt, Kaepelin, Berkeley, and Peterson have been carefully weighed. This new fourth edition is well worthy our recommendation, and we give it most heartily.

ESSENTIALS OF BACTERIOLOGY.

By M. V. Ball, M.D., formerly Resident Physician at the German Hospital, Philadelphia. Fifth edition, thoroughly revised. By Karl M. Vogel, M.D., Assistant Pathologist at the College of Physicians and Surgeons, (Columbia University). New York City. 12mo volume of 343 pages, with 96 illustrations some in colors, and six plates. Philadelphia, New York, London, W. B. Saunders & Co., 1904. Cloth \$1.00 net. J. A. Carveth & Co. Limited, 434 Yonge St., Toronto.

Within the last few years rapid progress in Bacteriology has involved many radical changes in the science, necessitating a thorough revision in the preparation of this edition. It is with pleasure we note the inclu-

sion of all the recent advances in the subjects of Immunity, Tuberculosis, Yellow Fever, Dysentery, Bubonic Plague, and other infectious diseases, making the work reflect as faithfully as possible the present status of Bacteriology. We can confidently say that this book in the present fifth edition will be found of inestimable service to the student.

SALINE WATERS.

By Dr. Carl von Noorden and Dr. Carl Dapper. Part V of Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. Translated by Boardman Reed, M.D., New York. A. B. Treat & Co., Price 75 cts.

This monograph deals with the effects of the saline waters of Kissingen, Homburg, on metabolism. The authors have had a large experience with these waters, and are able to speak in definite language. They take up such topics as the effects of these waters on gastric secretion, the digestion of fats, the metabolism of proteids, the excretion of uric acid, and the use of fruits, salads, vinegar, etc. The book is well written and will prove very useful to those who peruse it.

HALL'S EXPERIMENTAL PHYSIOLOGY.

A Manual of Experimental Physiology. By Winfield S. Hall, A.M., M.D., Ph.D., Professor of Physiology in the Northwestern University Medical School, Chicago. In one octavo volume of 245 pages, with 89 engravings and a colored plate. Cloth, \$2.75 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1904.

The laboratory method of presenting such a science as Physiology possesses many advantages, and leads directly and surely to definite results. This method has been followed by the author in the Northwestern University Medical College for many years. The exercises have heretofore been furnished the students in typewritten sheets which undergo yearly revision and improvement, and this book in its present form represents therefore a gradual evolution, and furnishes the accumulated experience of a competent, careful, conscientious and successful teacher. A strong feature of the work is its practicality. Throughout it will be noticed that the author never loses sight of the fact that the student is preparing for clinical practice, and the experiments and laboratory work all bear directly upon the requirements of Internal Medicine and Surgery.

The preliminary lessons in Cytology are presented as a feature of the volume. This introductory course has proved to be a substantial foundation to the study of General Physiology, as well as a valuable accompaniment to the study of Histology.

Some idea of the scope of the volume may be formed from the following brief of its contents. After an introduction on the subject, Part I. on Experimental General Physiology takes up Cytology and the General Physiology of Muscle and Nerve Tissue.

In Part II., on Special Physiology, will be found the chapters on the Circulation of the Blood; on Respiration; Normal Hæmatology; Digestion and Absorption; Vision; the Nervous System and the Muscular System.

An important feature of the work is the attention given to the physiological action of drugs.

THE ACID AUTO-INTOXICATIONS.

By Dr. Carl von Noorden and Dr. Mohr. Part IV of *Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition*. Translated by Boardman Reed, M. D., New York. E. B. Treat & Co., Price 50 cts.

The author contends that those who would treat disease successfully must keep themselves posted on all matters concerning digestion, secretion, excretion, and elimination. He claims that the acid auto-intoxications are among the most serious conditions the physician has to treat. This little volume deals with such topics as the acid products of metabolism, acetonuria, diabetic coma, the acetone bodies, etc., etc. The book contains much valuable information and like all Von Noorden's books should be carefully studied.

DR. EDEBOHLS ON SURGICAL TREATMENT OF BRIGHT'S DISEASE.

The Surgical Treatment of Bright's Disease, By George M. Edebohls, M.A., M.D., LL.D. Professor of the Diseases of Women in the New York Post Graduate Medical College and Hospital; Consulting Surgeon to St. Francis Hospital, New York; Consulting Gynaecologist St. John's Riverside Hospital, Yonkers, N. Y., and to the Nyack Hospital, Nyack, N.Y.; Fellow of the New York Academy of Medicine, and of the American Gynaecological Society; Honorary Fellow of the Surgical Society of Bucarest; Permanent Member of the Medical Society of the State of New York, etc. Frank F. Lisecki, Publishers, 9 to 15 Murray St., New York, 1904.

The author states that two-fifths of the book is made up of some of his most recent contributions to the medical press upon the subject. The remaining three-fifths is new matter and deals fully with the important topic of the results of the surgical treatment of chronic Bright's disease. The book contains much interesting matter and reflects great credit upon its eminent author who proves himself to be as fascinating a writer as he is brilliant as a surgeon. We feel sure that all who secure a copy of this work will find it well worthy of careful study.

BISHOP ON BLOOD PRESSURE.

Blood Pressure as affecting Heart, Brain, Kidneys, and General Circulation. A practical consideration of Theory and Treatment by Louis Faugeres Bishop, M.A., M.D., Physician to the Lincoln Hospital, New York; Late Chairman of the Section on Medicine of the New York Academy of Medicine; Member of the New York Pathological Society; the Neurological Society, Alumni Association, St. Luke's Hospital, etc. New York: E. B. Treat & Co., 241-243 West 23rd Street, 1904. Price, \$1.00.

For some years the subject of arterial tension, blood pressure and arterio sclerosis have occupied a good deal of the attention of scientific investigators and clinicians. The little volume before us is an important contribution to the subject, under the headings Alteration of Pressure in the Blood Vessels, Primary Low Pressure cases, the Management of Primary Low Pressure cases, High Pressure cases, the Management of High Pressure cases, Obscure Symptoms of Circulatory Disorder, the Management of secondary Low Pressure cases, the use of nitrites, etc. The book is a small one with much in it. Many excellent suggestions are made on the treatment of the various forms of vascular derangements discussed by the author. The book will well repay careful study, as it is brimful of information.

MISCELLANEOUS.

RESPIRATORY TRACT; AFFECTIONS, SYMPTOMS AND TREATMENT.

By Dr. ARTHUR B. SMITH, Springfield, O.

The average physician is frequently vexed in finding a condition which resists his best efforts to bring about a cure. This holds good in almost every disease at some time or other, but particularly in affections of the respiratory tract, where there may be a great variety of symptoms in several cases of the same disease.

Almost every physician has some favorite prescription for coughs, bronchitis, laryngitis, etc., which he uses until suddenly it seems to lose its efficacy—why, no one knows. Then another remedy takes its place until it, too, fails to give the desired result. It is rarely that one finds a cough remedy which will be consistently good in the majority of cases. Theoretically there appears to be a well-founded objection to the use of cough syrups in general, but nevertheless there are times when nothing else gives satisfaction; therefore, the physician pins his faith to that remedy from which he and his patients derive the most good. It is not always easy to find such a remedy, but when it is once found, it is equally difficult to dispense with, and often the physician is almost compelled to resort to a routine treatment. In such cases, of course, he wants the best.

There are constantly being placed on the market new formulas for affectioners of the air passages. Some of these formulas are of undoubted benefit in some cases, but usually it will be found that the results are far from satisfactory. Many of them cannot be taken when there is any gastric complication, as is sometimes the case, because of consequent nausea and vomiting. Others seem almost invariably to act as cardiac depressants and are highly objectionable for that reason. With the advent of heroin, however, these disagreeable features have, to a great extent, been avoided. Heroin, in the vast majority of cases, can be tolerated by even the most sensitive stomach, and, if any disturbance should occur, it can easily be obviated by decreasing the dosage and then gradually resuming the previous amount. Heroin can be prescribed, in cases which are complicated by an enfeebled heart, without danger of depressing effects. As compared with codeine, its sedative action on the respiration is much more powerful. The fatal dose of heroin is said to be one hundred times the efficacious dose, while with codeine the efficacious dose is one-tenth of the fatal dose. In other words, heroin is ten times safer than codeine, and can be given in much larger doses, if necessary, without danger. It appears to exert a specific action on the center of respiration without causing disturbances of any other organs or centers, and there is no danger of acquiring any habit by its use.

In phthisical patients the well known lack of appetite and intolerance of various foods render it imperative to give remedies which will not in any way interfere with the digestive functions, while at the same time controlling or alleviating the cough and other distressing conditions.

Some time ago my attention was called to a preparation composed of a solution of heroin in glycerine, combined with expectorants, called Glyco-Heroin (Smith). Each teaspoonful of this preparation contains one-sixteenth grain of heroin by accurate dosage. It is of agreeable flavor, therefore easy to administer to children, for whom the dose can be easily reduced with any liquid, or by actual measurement. It possesses many advantages not shown by any other preparation I have used, and has none of their disagreeable features.

In citing some of the cases treated with this remedy I shall not go into a minute description of any case, but briefly state the conditions which existed and the results obtained, which were uniformly good.

CASE 1. S. B., aged 16. Caught a severe cold while traveling. This developed into an unusually severe attack of bronchitis with mucous rales, pain, cough and some slight fever. Prescribed Glyco-Heroin (Smith) one teaspoonful every two hours, decreased to every three hours. After a few doses were taken there was a decided improvement, the respirations were slower and deeper, the expectoration freer and the temperature normal. In a few days the patient was practically well and able to

return to school. No medicine except Glyco-Heroin (Smith) was given and the results from its use were excellent.

CASE 2. W. L., aged 31. Acute bronchitis. Painful cough, with difficult expectoration, particularly when in a reclining posture. Glyco-Heroin (Smith) in teaspoonful doses every three hours gave speedy relief and a cure was effected in a few days.

CASE 3. S. W., aged 60. Chronic bronchitis. Had coughed for years, with expectoration of a thick yellow purulent and very offensive matter. Had lost flesh gradually until about twenty pounds below usual weight. No appetite, very constipated, pains all over chest, night sweats and insomnia. Patient on the verge of nervous prostration and greatly weakened. She was given bromides, a tonic, and Glyco-Heroin (Smith), the latter in the usual dose at intervals of two hours. The first few doses were not well borne, as they seemed to cause some nausea, but by giving a smaller dose and then gradually increasing it, tolerance was soon obtained, and the results were remarkable. The cough and expectoration greatly decreased, the appetite improved, and the patient became much better in every way. The treatment was continued as before, except that the Glyco-Heroin (Smith) was given every three hours. In three weeks the patient was eating almost everything she pleased, and sleeping well. The night sweats had stopped, together with the cough, and, as the patient expressed it, she "felt like another woman." At present she is in perfect health and needs no medicine except an occasional laxative.

CASE 4. B. E., aged 26. Severe bronchitis accompanying an attack of influenza. Various remedies were tried in this case, with negative results, until Glyco-Heroin (Smith) was given in teaspoonful doses every three hours. In a short time decided relief was obtained and the cough stopped permanently.

CASE 5. R. L., aged 6. Capillary bronchitis with pains over chest, cough and difficult expectoration. Glyco-Heroin (Smith) administered 15 drops every 3 hours. After taking a few doses the condition was much improved, and a speedy return to perfect health followed.

CASE 6. W. H., aged 5. Whooping cough. Spasmodic paroxysms of coughing, sometimes being so severe as to cause vomiting. Tenacious mucus was present, requiring great expulsive effort to loosen it. There was little fever, but the patient was much prostrated and weakened by the cough. Glyco-Heroin (Smith) was given in 10 drop doses every two hours with good results. This was combined with hygienic treatment, the patient being given as much fresh air as possible. In a few days the condition was much ameliorated, the cough under fair control, expectoration was freer and easier to raise, and convalescence uneventful. The case was discharged cured and there were no unpleasant sequelæ, the patient at present being in perfect health.

A VALUABLE AUXILIARY IN THE TREATMENT OF PNEUMONIA.

Pneumonia is nowadays considered a general infectious disease, due to a special germ, and not, as was formerly believed, a local condition resulting from exposure to cold. It is therefore of the utmost importance that once it appears in a household every precaution should be taken to prevent its spread to other members of the family. As the germ is carried through the air, this cannot be accomplished by fluid disinfectants; an unirritating and non-poisonous antiseptic which is sufficiently powerful to destroy the infection and yet can be freely breathed by the patient is required. There is only one safe and efficient agent of this kind, and that is Vapo-Cresolene. Experiments by a member of the Pathological Department of Yale University have demonstrated its high germicidal power. Its vapor permeates the air of the sick-room, destroys the infection at its source, and when inhaled by the patient allays cough and irritation in the air-passages, promotes expectoration, and thus aids materially in bringing about recovery.

CHOREA AND ANEMIA.

By ROSHIER W. MILLER, M.D., Ph. G., Barton Heights, Va.

Lecturer on Nervous and Mental Diseases, and Professor of Theory and Practice of Pharmacy, University College of Medicine, Richmond, Virginia.

In the etiology of chorea, nothing is noted relative to anemia. It is simply accounted as an accompanying symptom of the condition. Medical literature emphasizes the relation between rheumatism and chorea, with anemia as an important symptom. After observation of several cases, I am strongly of opinion, however, that anemia as a causative factor is worthy of investigation.

Anemia of toxic origin presents pathological conditions which favor the production of choreaic affections. It is true that simple anemia is, as a rule, of secondary origin, and, viewed in this light, it may be argued that if chorea arises, it is the result of the primary and not of the secondary conditions—thus agreeing with the admitted etiology. This argument, however, will not satisfactorily explain those cases of chorea which arise remotely from the primary condition, but recently from the secondary effects.

I submit three cases in which symptoms, treatment, and recovery seem to intimate at least a possible relation between anemia and chorea.

CASE I.—A female child of eight years gave a history of typhoid fever eight months prior to my visit. According to the mother's statement, the child had made a quick and good recovery, gaining rapidly in weight and exhibiting the energy of her former life. Six months later

she became irritable and pale, with pain in her arms and legs, which condition was soon followed by gastric disorders and irregular spasms of the muscles of the face. Simple anemia was in evidence from objective and subjective symptoms alone, but was unquestioned in the light of the results obtained from blood examination—the red blood element being present to the extent of barely 3,000,000 red corpuscles per c. m.

This case was treated with two teaspoonfuls of pepto-mangan (Gude) and two drops of Fowler's solution, three times a day. After gastric symptoms had abated somewhat, two raw eggs per day were added to the diet. The patient was discharged in five weeks, completely recovered.

CASE II.—A female child of ten years of age; gave history of malaria (a well-defined case of intermittent fever) one year previously. The pallid condition of the child induced the mother to solicit my aid. Upon examination, I found slight choreaic movements which had escaped the mother's eye, though she did admit that the child "could not sit still very long at a time," and "was constantly working her fingers." The blood examination revealed no plasmodium. The red cells were reduced to 2,800,000 per c. m., with a proportionate decrease of hemoglobin.

Pepto-mangan (Gude) alone was employed in doses of two drams in a glass of milk three times a day. The blood examination four weeks later showed red cells present to the amount of 3,900,000 per c. m., at which time I dismissed the case completely recovered.

CASE III.—A female child of thirteen years. Two months before my visit, the mother informed me, the child became peevish and pale, and was reprimanded at school for her inability to write neatly. She was taken from school, but she grew rapidly worse. Morning nausea, vomiting, headache, and anorexia were her daily companions. I found her with pronounced histrionic spasm, with involvements of the upper and lower extremities. Hemic murmurs were plainly apparent, but no endocardial irritation could be determined. The blood count showed reduction in red cells to 2,100,000 per c. m. The hemoglobin was reduced to a degree greater than the red cells. A curious feature of the case was the morning nausea. Immediately upon awakening, she experienced nausea, which was followed by vomiting. I discovered, however, that this condition was superinduced by odors from the kitchen, and directed that a small sponge, moistened with creosote water, be placed over the nose and mouth before the preparation for breakfast began. The annoying symptom was promptly checked by this simple method. The anemia in this case may have been produced by malnutrition, but even this view is mere speculation.

The irritability of the stomach in this case was so pronounced that I did not deem it wise to give nourishment—not to speak of medicine—

by the stomach. During the first four days rectal alimentation was employed. A nutritive enema, consisting of four ounces of peptonized milk and two drams of pepto-mangan (Gude), was given every six hours. Small amounts of peptonoids with creosote on ice were given by the stomach. Egg albumin was taken in all the water she drank. After four days, the stomach was tested with small amounts of milk and pepto-mangan (Gude. Beginning with four ounces of milk and one dram of pepto-mangan (Gude) every four hours, the amounts of each were rapidly increased, until after three days the patient was taking eight ounces of milk every two hours and four drams of pepto-mangan (Gude) three times a day. This diet, plus three raw eggs a day, together with the above treatment, was all that was employed for six weeks. The blood examination at this time showed a highly gratifying condition—the red cells being present to the extent of 4,100,000 per c. m. The bloom of youth once more tinted the cheek, and the shrine of St. Vitas lost a visitor.

A SPLENDID MEDICINAL AGENT.

The value of the ozoniferous oils, essences and ethers in the antiseptic treatment of disease, has been largely recognized and demonstrated through the extensive and successful employment of Listerine in surgery and in general medicine. Listerine is the trade name or descriptive word for the most successful formula of modern pharmacy, consequently it has been utilized most extensively by medical practitioners, and "improved upon" by nearly every manufacturing pharmacist and in many retail drug establishments to an extent that does not apply to any other galenical preparation within or without the pharmacopœia. This tribute to the originality and value of Listerine is very flattering to its manufacturers, who continue to enjoy an uninterrupted increase in the output of their laboratories and a constantly widening market, so that Listerine is known and procurable in any reputable pharmacy anywhere. It advertises itself by its own good qualities; indeed the manufacturers have long ago decided that the best advertisement of Listerine is Listerine. *The Western Druggist, October, 1904.*

ANTIPHLOGISTINE *v.* POULTICES.

A prominent physician in lecturing recently on a case of senile pneumonia at the Philadelphia Hospital, said:—

"Hot flaxseed poultices, well made so as to retain their heat for four hours, were kept about the thorax during the day and at night were replaced by a lamb's-wool jacket, for the better part of a week. It is im-

portant when poultices are used that they should be well made and should retain their heat for four hours, in order that the patient shall not be continually disturbed to change them. Fever patients need rest, not only sleep at night, but rest during the day. It is rarely wise to wake the patient, either for food, for medicine, for bath, or for any other application. Save in exceptional instances, sleep will do more to favor recovery than the agent for whose sake it is interrupted."

The time was when the above statements would have received the hearty endorsement of all thoughtful medical men. But this is not the ox-cart, candle or horse-car age. We are living in the twentieth century. The old things must be laid aside. They are valuable only as antiques.

We have the cleanly and convenient electric light instead of the greasy candle. Why not Antiphlogistine, made of cleanly and aseptic materials and capable of maintaining a uniform degree of temperature for 12 to 24 hours or more, instead of the bacteria-breeding, soggy, clammy linsseed and other poultices?

Most up-to-date doctors say,—"Yes, we know all about Antiphlogistine and use it regularly as routine treatment in all cases where inflammation is present and a local remedial agent is indicated."

Picture an individual with a temperature 104 to 105 degrees, pulse 120--140, resp. 40--70. If any one craves and absolutely needs rest and sleep it is such a patient. A linsseed poultice affords a very poor means for the continuous application of moist heat, nothing more. It cannot be sufficiently well made to retain a temperature of value for more than a half hour. Antiphlogistine need not be changed oftener than once in 12 to 24 hours during which time a comparatively uniform temperature is maintained. Refreshing sleep is invited, and not hindered. It stimulates the cutaneous reflexes, causing a contraction of the deep-seated and coincidentally a dilation of the superficial blood-vessels. At the same time it attracts or draws the blood to the surface—flushes the superficial capillaries—bleeds but saves the blood.

The circulation is thus favorably affected. The aggravating symptoms are almost immediately ameliorated. Congestion and pain are relieved, the temperature declines, blood pressure on the over-worked heart is reduced, the muscular and nervous systems are relaxed and refreshing sleep is invited.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about One Hundred

and Eighty Dollars, will be made on July 14, 1905, provided that an Essay deemed by the Committee of Award to be worthy of the Prize shall have been offered.

Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1905.

Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author.

It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

The Alvarenga Prize for 1904 was not awarded, no essay of sufficient merit, in the judgment of the Committee, having been submitted in competition.

THOMAS R. NEILSON, M.D.,

Secretary.

GENERAL MEDICAL CATALOGUE.

It may not be generally known that there is published with annual revision, a General Catalogue of all Medical, Surgical, Pharmaceutical, Dental and Veterinary Books in the English Language.

This Catalogue includes the books of all Medical publishers, and is arranged under subject classification. A more convenient little book could not well be devised, and a copy should be on the desk of every physician, surgeon, dentist or druggist. It is furnished gratis, and a postal card request will bring one promptly if addressed to

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When writing, specify GENERAL Catalogue.

GLYCO-THYMOLINE IN NOSE AND THROAT DISEASE.

Just at this season of the year we are especially called upon to consider the advantages to be found in Glyco-Thymoline for the treatment of acute catarrhal diseases of the nose and throat.

Coryza, Naso-Pharyngitis, Tonsillitis and Laryngitis are now most common. After exposure to cold or damp chill the mucous membrane, with its delicate cell structure and fine capillary network, takes on a turgid appearance. The minute blood vessels or capillaries be-

come congested and their function practically suspended. The blood cells through lack of nourishment die and are thrown off. The glandular secretions are altered; instead of excreting a bland, non-irritating mucus, we have present an acid discharge most irritating in type. This is about the condition we find in all catarrhal inflammations.

How does Glyco-Thymoline apply here? What are its special advantages?

When applied warm in a 25 per cent. solution, Glyco-Thymoline gives a soothing sensation to the inflamed membrane, due to its anaesthetic or anodyne properties.

Glyco-Thymoline quickly dissolves all accumulations of thick, ropy mucus, crust formations, etc.

Glyco-Thymoline in a 25 per cent. solution, being approximately of the same alkalinity and specific gravity as blood serum, causes by its exosmotic action (the passage outwardly through the tissues of normal secretions and products of inflammation), a rapid depletion of the engorged tissue, thus aiding nature after her own manner in restoring capillary circulation, normal glandular action and fostering cell nourishment which soon brings about a general normal condition to the membrane.

DR. HAMILL'S CANADIAN MEDICAL, DENTAL AND DRUG EXCHANGE OFFICE.

The Canadian Medical Exchange, conducted by Dr. Hamill for the purchase and sale of medical properties has for the past 10 years met with such approval of the profession that a very great percentage of all the medical sales put through in Canada are consummated through his efforts. The methods adopted are up to date in every particular, offering to vendors a maximum of security against any piracy or dishonorable dealings and offers a short cut to make a sale by bringing into contact men who want to buy with men who want to sell. Physicians should take advantage of the benefits to be derived from this Exchange when they are thinking either of selling or buying.

A FEW REMARKS ON ASTHMA.

Asthma is entirely a spasmodic condition produced by a spasm or contraction of the circular muscular fibres of the air tubes by which the tube caliber is reduced and breathing becomes abnormally difficult. It is a most oppressive condition and when the spasm is over it leaves the

patient much exhausted. It is essential to prevent the asthmatic attack as far as it is possible. The point of greatest importance in the treatment of the sufferer is the improvement of the general health; if this can be accomplished the system is necessarily supplied with normal power to fight the cause or causes which bring on an attack and to stand the strain of the attack. A constant shortness of breath, aggravated at times by colds after exposure indicates either an asthmatic or emphysemic condition. In this condition the air cells are abnormally dilated and frequently torn so that they coalesce one with another and the normal elasticity of the lung is greatly reduced, consequently, the patient cannot properly empty the lungs. As the results of this the chest becomes barrel shaped and the respiratory movements are very much diminished, and consequently the blood is very imperfectly oxygenated and the general system shows a mal-nutrition and anæmia. To prevent the tearing of the cells into each other, as well as the spasms, it is highly necessary to improve the condition of the lung tissues by building up the general system. Where this is completely accomplished it relieves the distressing sensation or shortness of breath. It lessens the tendency to rupture and reduces the respiratory spasm. To restore the natural nutrition of the lung tissue is to enable it to recover its elasticity and this can only be done completely by supplying an absolute and perfect nutrition.

In a large clinical experience I have found that Bovine meets every demand and can be given with impunity at all ages. It supplies perfect nutrition, tones up the enfeebled circulation—and keeps up a proper and gentle stimulation.

E. E. ROWELL, Jr., M.D.

HYDROGEN PEROXIDE.

HOW BREAKAGE OF BOTTLES CAN BE REDUCED TO A MINIMUM.

(Abstract from the *National Druggist*, of Saint Louis, Mo., October, 1904).

The greatest obstacle that lies in the way of producing a sound container for liquids occluding gases under high pressure, as, for instance, solutions of hydrogen peroxide, is the fact that no process for making unbreakable glass has yet been discovered.

Up to the present, the ordinary amber glass bottles have been found totally inadequate and untrustworthy, though a device patented by Mr. Charles Marchand, goes far towards overcoming this delinquency.

This device practically reduces the danger of bursting of the bottles to a minimum. As long as the bottles, having this device, are kept in

stock standing up, the pressure resulting from shaking, high temperature in course of transit, etc., will not rise much above four or five pounds to the square inch; and, therefore, though occasionally a bottle may crack or burst, it is not due to pressure, but to the inherent imperfection of the glass, arising either from the lack of homogeneity, or else imperfect annealing, or both, to which we have already referred.

The worst feature of this unreliability in the bottle is, that there is no accurate way of detecting it. A bottle may be submitted to a pressure of a hundred pounds to the square inch, without betraying signs of weakness, yet even with nothing in it, it may burst or crack within an hour.

The only remedy in these conditions as to the bottles, and that is not absolute, is in changing the material from which the containers are made, and substituting, for the unreliable amber glass, a good article of flint glass. While, as we have intimated, this does not absolutely remove the danger of loss by explosion or cracking, it greatly reduces it, and when the flint glass container is closed by Marchand's Safety Valve Stopper, danger is reduced to a minimum, beyond which, in the present condition of the technics of bottle-making, it is impossible to go.

This is exactly what Mr. Charles Marchand, the manufacturer of hydrozone, glycozone, peroxide of hydrogen, etc., intends to do. Just as soon as his present stock of amber glass containers is exhausted, he will use exclusively flint glass, every bottle being corked with an automatic safety valve stopper. By adopting these expedients, Mr. Marchand, having done all in his power to prevent breakage, can go only one step further—to make good any losses from that direction—replace the bottles that get broken from this cause. Beyond this, it would be unreasonable to expect him to assume further responsibility. The actual danger to life or limb from the bursting of a bottle of hydrogen peroxide, or any of Mr. Marchand's preparations, is trivial, as compared with those arising from the explosion of bottles of beer, ginger ale, champagnes, and other sparkling wines, or even Apollinaris or other heavily aerated waters.

When any of these rupture, the fragments are driven, not only with all the force and energy of the already liberated gases, but with the augmented energy of the residual gas suddenly set free, and so may inflict severe, sometimes irreparable damage. The safety-valve arrangement in the stopper of bottles of hydrozone, prevents the sudden disengagement of a great volume of gas.

Assuming that through some imperfection of the stopper, the puncture should close as soon as the pressure from within rose to a point far within that required for the rupture of the bottle, the stopper, not being wired, but merely tied down, will be forced out.

But glass is a proverbially brittle and treacherous substance, and it is liable to break in the hands of anybody, at any moment, and without any discoverable or apparent cause, and that whether filled or not. As a consequence there must always be some risk attached to the handling of glass containers. The best that can be done, as we have suggested elsewhere, is to reduce the risk of rupture or fracture to a minimum, and this Mr. Marchand has done, not only by his safety stopper device, but also by the promised substitution of the stronger flint glass. The retail trade will, we are sure, welcome this latter change most heartily, since it completes and supplements the efforts made in the mechanical direction, and thus removes, as far as lies in human efforts, all danger arising from handling Marchand's goods.

A SCOTCH DOCTOR'S OPINION.

The Quarterly Journal of Inebriety, so well and favorably known through the instrumentality of its brilliant and philanthropic Editor T. D. Crothers, A.M., M.D., quotes the following statement in reference to pain relieving remedies from one of Great Britain's noted medical men, Dr. John Stewart Norvell, Resident Surgeon, Royal Infirmary, Edinburgh; "Antikamnia Tablets are a remedy for almost every kind of pain, particularly for headaches, neuralgias and neuroses due to irregularities of menstruation. They act with wonderful promptness, the dosage is small, two tablets. The undesirable after-effects so commonly attending the use of other coal-tar analgesics are entirely absent and they can therefore be safely put into the hands of patients, for use without the personal supervision of the physician."

SANMETTO IN ORIGINAL PACKAGE.

Sanmetto proves an admirable success whenever prescribed in the original package, thereby getting the genuine article. Sometimes I give a prescription in smaller quantities, and am disappointed in the results, thereby convincing me that a spurious article has been palmed off on my patient.

Marble Falls, Texas.

S. B. HAYGOOD, M.D.