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Original Communications.

GOITRE AND ITS TREATMENT.*

BY GEO. A. BINGHAM, M.B.,

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Four years ago at the request of the Committee on Papers I made a report to this Association based upon my experience with thirty-three cases of goitre operated upon. This year in casting about for a subject upon which to address you, I thought it might be useful to omit those questions of medical politics which have been so thoroughly threshed out by my predecessors in this chair, and to detail very briefly a second report on goitre and its treatment founded on a series of eighty-two operations in all.

As pointed out by C. H. Mayo,[1] the rapidly increasing number of cases operated upon during quite recent years does not mean that goitre is on the increase, but that nowadays, it is recognized that a comparatively early operation for goitre is, as a rule, followed by results most gratifying to both surgeon and patient, and is accompanied by an extremely small mortality rate. Indeed, I would now go so far as to say that in cases where as yet no pressure symptoms have developed, the patient, in view of future development, and even for aesthetic reasons, has a perfect right to claim the benefits of an operation which, in careful hands, should be as free from danger as appendicectomy.

*The President's Address, Ontario Medical Association.

The Parathyroids.

The anatomy and functions of the parathyroids and their relations to the thyroid gland have been matters of keen interest to the surgeon of late years, and much experimentation has been carried out. But much remains still to be done before the riddle of these curious bodies shall be interpreted aright. First noted by Sandstrom in 1880 and described by Horsley in 1884, many experimenters have since labored to ascertain their functions. They found that the thyroid and parathyroids were separate and distinct entities; that while complete removal of the thyroid interfered with assimilation and metabolism producing a chronic condition known as myxoedema, on the other hand complete removal of the parathyroids induced a very acute state of tetany, somewhat resembling Graves' disease, and from which the patient usually succumbed. Roswell Park[2] thus sums up the knowledge so far conveyed to us by the experimenters:

"1. There are two quite different sets of tissues involved in the thyroid and parathyroids.

"2. They are not completely independent of each other, for the removal of either one caused changes in the others.

"3. There is reason to believe that myxoedema follows removal of the thyroid, and tremors and nervous symptoms, including tachycardia, result from extirpation of the parathyroids.

"4. It would appear, further, that failure of the parathyroids is followed by enlargement of the thyroid. If this be true, Graves' disease seems to be explained, since the former would account for the enlargement of the thyroid sometimes so conspicious, while the increased secretion afforded by this enlargement will account for the exophthalmos."

This relation of the parathyroids to Graves' disease, however, would appear to be pretty thoroughly disproven by the careful dissections of Benjamens, MacCallum and others who found that the parathyroids were perfectly normal in cases of exophthalmic goitre examined and, therefore, could have nothing to do with the production of the disease. These little ductless glands which have received so much attention of late (and to the study of which I beg to direct the efforts of my younger scientific friends in the profession) are usually four in number—two upper and two lower—and, as a rule, lie behind the thyroid, often in the neighborhood of the entrance to the gland of the superior and inferior thyroid arteries, from which vessels they receive their blood supply. They have been found most frequently in the areolar tissue behind the gland, sometimes in contact with the gland capsule and rarely within the capsule embedded in the thyroid tissue itself. They are elliptical in shape and homogeneous in appearance and they are much softer in consistence than either thyroid or lymphatic tissue.[3]

Let us now ask ourselves the question: Of what value to the operating surgeon is this somewhat vague and indefinite knowledge of the situation and function of the parathyroids? Here I think we must all agree that in operations upon the thyroid, we should endeavor to leave intact a part, and, if possible, all of the parathyroids, as it has been shown that the severity and danger of the tetanic condition resulting from their extirpation is in direct proportion to the amount of parathyroid tissue removed. The only difference of opinion will be as to how, during an operation, the safety of the parathyroids may be best conserved.

It has been suggested by Park[4] that this end might be most effectually attained by opening up the thyroid capsule and enucleating the gland, thus leaving behind the capsule and, of course, the parathyroids in contact with it. To this method I must object for several reasons, some positive and others negative:

1. The hemorrhage resulting is always severe and makes the operation an unsatisfactory one.

2. In thyroidectomy I almost invariably leave one lobe intact and, consequently, at least two of the parathyroids are preserved, and in man it seems fairly certain that two normal parathyroids are sufficient.

3. While the parathyroids in dogs are quite often found within the thyroid capsule, I have never found it so in man, nor so far as I know have others of much greater experience and opportunity of observation.

4. It would seem that by exercising care during an operation upon the thyroid, the parathyroids may often be distinguished, avoided, and their blood supply preserved.

5. Finally, by working very close to the outer surface of the thyroid capsule, and by ligating the vessels at a point as close as possible to the gland, it would appear very probable that the parathyroids would be preserved even though not recognized during the operation.

Graves' Disease.

As has been pointed out by Kocher[5] the term exophthalmic goitre is misleading, inasmuch as the exophthalmos is not as a rule present at the beginning of the disease, and, indeed, may not develop until the very life of the patient is threatened. Now, as the cure of the patient depends very largely upon an early diagnosis by the physician, it would seem wise to discard the term "exophthalmic," at all events in connection with the earlier symptomatology of the disease. Every surgeon interested in this class of work has encountered cases differing

greatly in severity. Kocher[6] classifies these types of varying degrees of intensity as follows:

Class A.—Vascular Goitre. This type develops rather suddenly as a soft and uniform enlargement of the gland. Exophthalmos is absent but Grafe's sign is probably present. Tachycardia, tremor, enlargement of the vessels of the gland with bruit and thrill are nearly always symptons of this variety of goitre from the beginning.

Class B.—Struma Gravesiana Colloides. Here an ordinary colloid goitre has existed perhaps for years when, suddenly or slowly, symptoms of Graves' disease make their appearance. Exophthalmos is often absent until the disease is well developed. All the other symptoms are present, but are not so severe as in a typical case of Graves' disease. It is suggested that in these cases the colloid material present may, in some way, counteract the toxic effect of the hypersecretion of the gland upon the sympathetic nervous system.

Class A.—Typical Graves' Disease. In this class the symptoms of the disease develop slowly or sometimes suddenly, frequently with a history of previous long-continued nerve strain or a severe mental shock. Exophthalmos is present and all the other symptoms are well marked and severe. If this type of the disease be not early recognized and treated, it runs a rapid course, and secondary changes soon appear in heart muscle and vessel walls which render impossible an operation, which, if undertaken at an earlier date, would almost certainly have effected a cure.

Including these three classes of Graves' disease, I have operated upon 13 cases, 4 males and 9 females. Ten of these cases improved steadily after operation and to-day consider themselves cured. In regard to the three deaths, all belonged to the typical class of Graves' disease. The first was a male in good mental condition prior to operation. He died in a severe maniacal condition 72 hours afterwards. In this case the operation was an easy one, the tumor was not large, though deeply placed, and there was but little manipulation of the gland, the smaller lobe being left *in situ* as has been my custom. I confess that this case has been a complete puzzle to me. The other two cases were females with the disease altogether two far advanced for operation. On neither of them, with my present experience, would I now operate. One of them died in an asylum three and a half months after the operation. There was a rapid recrudescence of the growth in the remaining lobe, and she died of exhaustion. The other case died six hours after the operation of heart failure. Now, although 13 cases of Graves' disease is but a small number from which to make deductions, yet the fact that 77 per cent. of them were cured has quite decided for me the question of the advisability of operation in these cases.

The all important points are for the physician to make his diagnosis early, put the patient to bed, and make his surroundings such as that he will be in a condition of absolute rest, physical and mental. As for medicines, in addition to maintaining strictly the nutrition and functions of the body, I have used phosphate of sodium grs. Vt. i. d. with apparent benefit. Theoretically phosphorus in some form is indicated. Under such treatment some will be cured, others will improve up to a certain point, and the wise physician will soon see when his patient has reached that point and will hand him over to the surgeon long before the disease has advanced to such a stage as will render an operation useless. I believe that every case of Graves' disease, when seen early enough, should be submitted to this rest treatment for two or three weeks before operation.

The operation carried out on my cases, as a rule, has been the removal of the larger lobe and the isthmus, though in two cases, when both lobes were equally enlarged, I removed the whole gland with the exception of a small portion of one lobe.

I have had no experience in other methods of operating for Graves' disease, such as ligating the thyroid vessels or sympathectomy. As to the former—if the thyroid veins were included in the ligature, one would expect an immediate increased absorption of the glandular secretion through the lymphathics and a consequent exaggeration of the symptoms. Again, ligature of the vessels would expose the patient to the dangers of gangrene and, besides, the deliberate exposure and ligaturing of the thyroid vessels would be quite as serious an operation as thyroidectomy itself. As for sympathectomy, I cannot see how the removal of the sympathetic ganglia can possibly cure a condition which (if my experience of 77 per cent. of cures by operation is of any value) must be caused by some abnormal activity of the gland itself.

Whether the disease be due to the secreting by the enlarged gland of some toxic substance other than the normal secretion, as was long ago argued by Horsley, or whether Graves' disease be merely an expression of toxic poisoning by a hyperactivity of the gland and an overproduction of its normal secretion, is still a debated point. In favor of the latter theory I would point out a fact that is very generally known, viz: that by feeding a healthy subject upon thyroid extract one can produce most of the symptoms of Graves' disease.

Malignant Goitre.

In this condition complete and early operation offers the only chance for the patient. Unfortunately, a sufficiently early diagnosis is not usually made, the neighboring glands being

already involved. Even in such advanced cases the patient may be made fairly comfortable by partial removal, thus relieving pressure and making possible a future tracheotomy.

I have done a thyroidectomy in only three cases of malignant goitre—all females. One, who was also suffering from Bright's disease, died a week later from uraemia. It was at her own earnest solicitation that I operated in this case. The second case, an old lady of seventy, died two weeds after operation of exhaustion following a long journey to her home. The third died of recurrence six months after operation.

Simple Goitre.

In a series of sixty-six cases of simple parenchymatous goitre operated on, I have had three deaths. The causes of these deaths are of interest.

Case 1.—A huge goitre in a girl, aged seventeen, which was causing very severe pressure symptoms, was easily removed. Twenty-four hours later, when I visited her, I found her extremely lively and clamoring for food. The nurse reported that the patient had been feeling so well all morning that it had been difficult to keep her in bed and impossible to keep her quiet. Six hours after my visit she suddenly sat up in bed, screamed once and fell back dead. No autopsy was allowed. The cause of death was probably pulmonary embolus. This result impressed me with the wisdom of insisting in all cases, and especially where the operation field has been very large, that the patient shall remain perfectly quiet, so far as the head and neck are concerned, during the first forty-eight hours after operation.

Case 2.—An aged woman with the largest goitre I ever saw, weighing six and three-quarters pounds when removed. The anatomical relations behind the gland were much disturbed, and the adhesions were dense. In breaking down some adhesions, the much displaced and attenuated oesophagus was, unfortunately, torn across, and she died three weeks later of inanition. Here, again, the lesson was learned that, in all such extreme cases, a stomach tube should be passed and the oesophagus carefully outlined before the final steps of the operation are undertaken. Had this been done in case 2, the accident would not have happened.

Case 3.—A man, aged forty-five, from whom the right lobe and isthmus had been removed two and a half years ago for Graves' disease. The remaining lobe had been injured some months ago and increased in size quite rapidly, so that he now returned to have it removed owing to severe pressure symptoms. The operation was difficult, owing to the cicatricial contractions

and adhesions, and the extremely vascular nature of the tumor. He did fairly well for thirty hours with the exception of some difficulty in breathing. At that time he suddenly became cyanosed, respiration quickly failed and he died shortly afterwards. It looked like failure of the respiratory centre, but no autopsy was allowed.

I am aware that this mortality of 4.54 per cent. is too large, but I feel sure that at least two of such deaths would never occur in one's practice a second time.

I should like to detail a few points in the history of the last named case, illustrating the effects of operation on a typical case of Graves' disease. Mr. W., aged 42, presented himself in September, 1904, with a very large goitre, both lobes being involved, the right being the larger. The vessels of the gland were enormous, the thrill and bruit being marked. Exophthalmos and tachycardia were extreme, the pulse rate being 130 to 140. Tremor was very marked. Although a tall man, he weighed but 100 pounds. This man's history dated back for about a year, since when he has lost flesh rapidly and all the symptoms of Graves' disease have developed. His mental condition was bad. There has been a complete change of temperament. He has threatened his wife's life and his own, and was noisy, flighty, and at times vicious in temper. I removed the right lobe and isthmus and he returned home within two weeks of operation. He returned to me in April, 1907. His weight was 160 pounds, and he had worked steadily since his recovery from the operation. Instead of the wild excited picture which he had formerly presented, he was now quiet, self-controlled and mentally quite normal. The pulse rate was 82, the exophthalmos and tremor were gone, and he declared that he was in excellent health. Unfortunately during the previous winter the left lobe, which had become much reduced in size, had been injured in an accident, since which it had grown rather rapidly and he returned to have it removed, because it was kinking the trachea and thus interfering with his breathing.

Illustrating the class of cases described by Kocher as thyroidea garavesiana colloides is the following: Miss B., aged 44, has had a goitre for fifteen years, but paid no attention to it until one and a half years ago when tachycardia and tremor began to trouble her. Steady loss of flesh ensued and now exophthalmos is quite marked. All the symptoms are more moderate than in the case of Mr. W. just quoted. Left lobe and isthmus were removed. She went home in three weeks and a steady improvement has resulted. Though she had been unable to work for a year previous to operation, she is now, three months after operation, doing light house-work and enjoying life.

The next case quoted clearly belongs to the class of vascular

goitre. W. J., aged 27, an Englishman, has been troubled with goitre for eight months. It interferes with his breathing, especially when he stoops. As he is a farmer this prevents him from working. Thrill and bruit present and pulse rate 102 to 110. Slight tremor and muscular twitching. Exophthalmos is absent, but Kocher's sign is distinct, viz., sudden retraction of the upper eyelid when the patient is made to look steadily at his examiner. Right lobe and isthmus removed. Patient left hospital on ninth day. Four months after operation his physician writes to say that the man is quite well and working every day.

The Anesthetic.

I still use a general anesthetic, preferably chloroform, or a mixture of chloroform and ether, *administered by an expert.* We have always followed the rules mentioned in my former report (7), and in none of my cases have we had any serious difficulty.

The Technique.

The distinguished gentleman, who is to open the discussion on Surgery to-day (Dr. Crile, of Cleveland), has done much to aid the surgeon in the carrying out of this operation by his teaching as to blood pressure and the use of adrenalin, while the elevation of the head and shoulders of the patient, especially in operations for Graves' disease, materially reduces the amount of blood in the field and the resulting hemorrhage.

The transverse incision is the one chosen in most cases, and the technique has changed but little during the last four years. There is one change which perhaps should be noted. Instead of transfixing and tying off the pedicle (which is usually the junction of the isthmus and the lobe to be left behind), I now tear through this pedicle with a blunt dissector and seize and tie any small vessels which may bleed. This is practically the only operation in which I use silk in ligating the vessels. The possibility of cat-gut ligatures slipping or untieing in a very restless patient and resulting secondary hemorrhage has so far deterred me from using it.

I am thoroughly impressed with the importance of another feature in the technique of thyroidectomy, viz.: the avoidance of excessive manipulation of the gland during the removal. In some of the earlier cases where this rule was not carefully observed the convalescence was quite stormy. I am now convinced that this was largely due to hypersecretion caused by unnecessary manipulation, this, of course, being followed by undue absorption and the production of a toxic tetany. The manipulations must be gentle and the various steps of the operation carried out in a precise and clean-cut manner.

In cases of cystic goitre affecting both lobes my experience has shown me that it is not enough to remove one lobe and the isthmus as cystic degeneration will continue in the remaining lobe. It would seem to be safer after having removed the lobe most affected with the isthmus to incise the capsule of the remaining lobe and enucleate every cyst to be found.

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SOME POINTS ON PERINEAL AND VAGINAL TEARS.*

By Frederick Fenton, M.D., C.M.
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Mr. Chairman and Gentlemen,—First I desire to thank your President for the honor he has done me in inviting me to read a paper before your Society. It is not my intention to treat this subject in a systematic or exhaustive manner, but simply to present for your consideration and discussion, two or three points which have impressed themselves upon me.

First as to the causes of lacerations:

Under this heading one must of course mention such things as large head, rigid soft parts, and precipitate labor, but these are not the only or most frequent causes of tearing, in its severe forms at any rate. Undue prolongation of the second stage is, I believe, more apt to result in *severe* tearing of vagina and perineum, than is the opposite condition, viz., precipitate labor. Sufficient weight has not been given to this matter, and women are allowed to drag through weary hours of pain, resulting not only in greater exhaustion of the patient, but increasing the prospects of severe tearing and bruising, with all their possibilities for harm enhanced, by virtue of the lowered vitality of the pelvic tissues and diminished local resistance. A second stage should very seldom exceed three hours, while more frequently a much shorter time is indicated.

This raises the question as to when the second stage begins. Our text-books tell us that the complete dilatation of the cervix marks the division between the first and second stages of labor. Generally speaking that is true, but it is not in the *ordinary* case that we have trouble with tears, nor is it in the *ordinary* case that it becomes of great importance to fix with any degree of definiteness, just when the second stage began. Very frequently in prolonged cases, hours after the membranes have ruptured, the cervix is still not completely dilated, and yet the patient may be suffering, or in danger of suffering, from the same kinds of ill effects as are seen in prolonged second stage. Manifestly then, we cannot take complete dilatation as the only or principal guide in this matter.

In conditions of abnormal position or presentation, one of the most frequent of the general signs is early rupture of the membranes, and these are the very cases which furnish us with

*Read before the Toronto Medical Society.

prolonged second stages, or what I believe should be so regarded and treated.

I, therefore, submit that, from the standpoint of treatment given a patient in labor with incompletely dilated cervix, the beginning of the second stage should generally be counted from the time of rupture of the membranes, and this is imperative if it is found that Liq. Amnii escapes *during* the "pains." The escape of Liq. Amnii during the pains, as you are all aware, means that the presenting part does not properly plug the uterine outlet, so that instead of corking it the more tightly during a contraction, as is normally the case, there is left a gap at some point of its circumference, where the "water" is forced out and thereby more or less rapidly drained away.

The result of loss of "waters" is to allow the uterus to grasp the fœtus more and more closely with each recurring contraction, and permit retraction to gradually fit its muscular wall into the contour of the child's body. The circular fibres of the uterus will now tend to prevent the advance of the fœtus, thereby opposing the action of the longitudinal fibres, and the effects of delayed labor in the second stage, with all their attendant evils rapidly developed.

Furthermore, while contraction of the uterine muscle is intermittent, retraction is constant and progressive, with the result that the fundus gradually becomes thicker and thicker at the expense of the lower uterine segment.

The lower uterine segment is passive during labor, its fibres relaxing with the contraction of those of the body and fundus, till finally it is little more than a connecting tube between the body of the uterus and the vagina, which in turn is attached to the pelvic outlet. With the retraction of the muscle, especially where there is obstruction to the onward passage of the fœtal head, and consequent delay, the lower uterine segment and vagina become practically a hollow tendon serving to connect the uterus with the pelvic outlet. As retraction progresses the "tendon" becomes more and more tense and less readily dilatable. Secretion of the vaginal mucous is apt to fail, and the dry and sticky mucous membrane clings to the presenting part.

The head normally passes through the pelvis in a rolling manner. The occiput first descending, while the sinciput remains fixed; marked flexion is produced, and internal rotation occurring, the presenting part is brought below the arch of the pubes, while the sinciput is still high in the pelvis. Flexion now ceases and a process of extension begins, whereby the occiput swings forward under the pubic arch and presents

at the vulval orifice, the sinciput at the same time sweeping down the posterior vaginal wall and distending the perineum.

With a tense dry mucous membrane, which clings to the extending head, it is only reasonable to expect that the injury to soft parts will be greater than would be the case with the mucous membrane relaxed and moist. Hence I contend that prolonged second stage is a very potent factor in the production of pelvic injuries. I need only refer to the increased danger to the child which pertains in these cases to still further emphasize the necessity for reasonably early interference.

It does not come within the bounds of this paper to discuss the various conditions causing delay in labor, nor to treat of the signs of undue prolongation of the second stage, matters with which all here are more or less familiar; but I want to say that with careful and intelligent management of a case of labor, the text-book signs of prolonged labor should seldom if ever be seen; we should anticipate them, by affording relief at a sufficiently early time.

In spite of all that one can do to prevent it, tears are bound to occur at times, and I view with distrust the man who "never has a tear." I suspect that either he has not examined his patient's genital tracts with sufficient care or that his physical or moral eyesight is bad. "Threes into twos will not go." Muscular and connective tissues will not stretch indefinately no matter who happens to be standing by the bedside. At the same time, in our early days of practice, we have all had tears occur which would not occur now under similar conditions of head and soft parts, for the reason that we have learned by experience how some at least may be avoided. By the use of chloroform during the second stage, especially as the outlet is being neared; by the maintenance of good flexion; by the crowding of the head forward against the pubic arch, and tucking of the anterior vulvar commissure over the occiput as the head is being delivered, a great deal can be done. Episiotomy has not met with general favor, though I am confident I have seen it successful in preventing a severe tear on a number of occasions.

These methods of preventing perineal tears and the performance of episiotomy are familiar to all, and as I have nothing new to offer I will not waste your time by further remarks thereon, but will pass to the consideration of one or two points regarding the repair of tears after they have taken place.

Doubtless many of you have had similar experiences to my own in finding fairly deep tears, showing every indication of

uniting by first intention, at the end of a few days, where no suturing has been done at all, nature apparently handling the case satisfactorily. One naturally asks the question, to what extent may we leave these things to nature? The risk undertaken for the purpose of stitching perineal and vaginal tears is so infinitesimal, while the consequences of failure to secure a good pelvic floor are often so disastrous to health and happiness, that I feel that one is not justified in leaving a damaged pelvic floor unstitched.

The time at which these repairs are best done is deserving of some little consideration. It is the practice of most physicians to proceed with the stitching of the perineum, etc., as soon after the delivery of the placenta as possible. There is room for improvement here, I think.

Pelvic and perineal injuries may be divided into two great classes, viz., those which are severe, and those which are not. I would call a tear which involves the vaginal wall to a greater extent than would necessarily be torn by a tear of the perineum, or a tear of the perineum which involves the sphincter, as a severe one, and I would advocate that severe lacerations be left for one or two days before being stitched, while those which are not severe should be done before the placenta is expelled, and while the patient is still drunk with the chloroform administered throughout or toward the termination of the second stage of labor.

Slight lacerations are stitched for the purpose of closing a possible channel of infection, and possibly, too, from one's natural desire to leave things as nearly as he can in as good a condition as he found them. Slight tears, as I have defined them, do not in any way weaken the pelvic floor, so that it makes little difference whether one succeeds in getting everything just in the place it belongs or not, hence difficulties of light, etc., are of no great moment. It is my practice in stitching slight tears to insert the sutures before the placenta is expelled, for two principal reasons. First, because the patient is still sufficiently under the anæsthetic that she will not feel it, and secondly, because so long as the placenta is still attached there will be little if any bleeding to obscure the field of operations. The sutures are not tied till the placenta is expelled, and the wound thoroughly cleansed. Furthermore, by the time the placenta has come away, ordinarily the patient will have recovered from her anesthetic, and the bruised and torn tissues will to a large extent have recovered from the local anæsthesia due to stretching, while if you give more chloroform after the

expulsion of the placenta, one is very apt to have troublesome and even dangerous hemorrhage.

There are several reasons for delaying the repair of severe tears for at least twenty-four hours, and even much longer periods are not objectionable. In the first place the conditions obtaining after a labor, as a rule, are such as to make the maintenance of asepsis almost impossible, outside of a well equipped hospital. Time must be allowed for the removal of soiled materials and the fresh preparation of patient, nurse, doctor, instruments, etc., and oftentimes sleep is an indispensable part of the preparation of the three former.

The majority of these cases occur at night, and it is seldom possible to get a really satisfactory light to illumine the vagina, while next day one can choose his time and place with due regard to light, etc. Again, the swelling and distortion of the soft parts immediately post-partum is such that it is very difficult at times to make out just what one is dealing with, and there is danger of stitching things where they do not belong, while the constant leaking of blood over the field of operation increases all these difficulties manifold.

On the other hand by delay many of these difficulties are completely removed, while others are rendered much less formidable. Much needed rest may be secured by all concerned, thereby lessening the danger of shock to the patient, and improving the physician's judgment and skill.

The cleansing of the patient and preparation of sterile solutions and dressings, and the thoroughly efficient sterilization of instruments are all matters worthy of delay, while the securing of good light may make the difference between success and failure. But there is another matter which I believe is of great importance. During labor and throughout the puerperium the uterine muscle not only contracts but retracts also. Contraction produces temporary shortening of the muscle fibres, but retraction produces permanent shortening. In the early days of the puerperium this retraction goes on at a rapid rate, the uterine cavity becoming thereby much reduced in size, permanently. The result is that under the influence of chloroform the relaxation of the uterine muscle is not of so much consequence as it would have been a day or two before, when the relaxation might have permitted greater opening of uterine sinuses and consequent hemorrhage of more severe type.

The objection has been raised by some that non-union may more frequently occur. All I can say is that I have never found such the case, and those who have adopted this method,

and have had experience with it, do not hesitate to wait one or more days if they so desire. I have stitched as late as the seventh day after labor, and on the fifth day repeatedly, with good results, and it has been unnecessary to do anything more to freshen the surfaces, than to rub them with gauze.

I would deprecate the use of douches after perineal or vaginal tears, and I believe that the habit of tying the knees together is most objectionable, in that it must interfere very seriously with drainage from the vagina and maintenance of thorough cleanliness of the external genitals, to say nothing of the irksomeness of the position to the patient.

The perineal muscles have nothing to do with the thighs, nor has any thigh muscle any connection with the perineum, and I can see no reason therefore to believe that any movement of the legs can in any way affect the tension of the perineum. In stitching bad tears we usually have our patients in the lithotomy position, which would certainly put tension on the perineal tissues if such could be done by the position of the legs. Having brought the surfaces of the tear into apposition with the patient in such a position (which would increase tension if any would), no posture which is comfortable to the patient can, I am sure, be in any way detrimental.

Time forbids that I should go into details regarding the method of stitching, but I will mention just one point, and that is that great care must be observed that no pockets are left. The one that is most frequently overlooked occurs in the "Y" shaped tear, in which the main stem of the "Y" represents the tear through the perineum, while the two upper limbs run up either side of the vagina. It is important to see that the tip of the tongue-like piece between the two upper branches of the tear, is included in the second or third perineal suture, and thus drawn down into position.

I realize that in private practice one must at times be guided by expediency, even at the expense of efficiency, but where it becomes a question of a sound pelvic floor, half measures should not be considered. I have yet to meet with the first objection to the course advised, where the case has been fairly stated to the patient and friends.

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SUPPURATIVE PROCESSES IN THE MIDDLE SECTION OF THE AUDITORY SYSTEM.*

By John Hunter, M.B.

This title, though not strictly scientific, will answer very well the purpose for which these clinics are held, viz.: "To enlist practical discussions." This subject was selected solely on account of its great importance to the general practitioner, and it is from his standpoint that I purpose discussing it.

A large and rapidly increasing volume of literature attests the scientific interest attached to this subject, and, on the other hand, the frequency with which these suppurative processes complicate certain of the infectious diseases, *e.g.*, scarlatina and diphtheria, challenges the vigilant attention of the physician on account of the dangerous character of such complications. The special sense involved in the function of the ear is of such vital importance to the usefulness and happiness of the individual that any threatened impairment of it by disease, makes an imperative demand for prompt diagnosis and efficient treatment. Deafness spreads a dark pall over many phases of human life, and a brief reference to a few of these affected by it will suffice to indicate how widely this disability is felt. It renders its victims much more vulnerable to accidents from cars or automobiles. It impairs the acquisition of knowledge and places an impassable barrier at the entrance to many lucrative and desirable callings. It robs the individual, if a parent, of those affectionate emotions, begotten by the artless music of childhood's prattle; if a youth, of the rollicking inspiration of rag-time song or college yell; if a bachelor of those tender sentiments awakened by maiden's love song; if a politician of the partisan zeal, fanned by the stamping rhetoric of the rostrum; or if a musician of the enchanting symphonies of cultured cantatrice.

The subject we have chosen for this clinic has both its medical and surgical aspects, and therefore opens up a very wide field for discussion. The following division of it, viz.: Location, anatomy, pathological conditions, symptoms, etiology and treatment, will answer, probably as well as any other, for a very brief introduction.

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Location.

The location of the ear renders its anatomical structures, and the complicated mechânism involved in the discharge of its function, vulnerable to traumatism and disease. Its position in the skull makes it liable to involvement in any lesion of the temporal bone, in its petrous and mastoid portions. The external auditory canal being patulous and exposed, animate bodies may gain access to, and inanimate ones may be forced into its deeper portions and there set up irritation. The membrana tympani may be readily injured by sharp pointed instruments.

Anatomy.

No discussion of these morbid processes would be either intelligible, interesting or profitable without special reference to the anatomy of the structures involved, and the relationship of these to one another. The structures and cavities included in the middle section of the auditory system are, the eustachian tube, cavum tympanum and its contents, the auditus and the mastoid antrum. The eustachian tube may be compared to a ventilating shaft. It is patulous and extends from the posterior wall of the pharynx to an opening in the upper portion of the anterior wall of the cavum tympanum. It is partly cartilaginous and partly osseous, and lined throughout with a mucous membrane, in continuity with that of the pharynx. The most important segment of this tract is known as the "Cavum Tympanum." This cavity is centrally situated. It is in direct communication with the eustachian tube in front, and with the auditus posteriorly. The external wall is formed by the membrana tympani and its osseous ring, and the internal one by the outer end of the petrous portion of the temporal bone. The latter wall is perforated by two openings, the foramen ovale and the foramen rotunda. Each of these is closed by a membrane and into that of the foramen ovale the foot-plate of the stapes is attached. The roof is formed by a thin plate of bone—known as the tegmen tympani—which separates the cavity from the middle cranial fossa. The facial nerve passes from before backwards along the inner wall of the "cavum tympanum," and then turns directly downward into the styloid foramen. The other important structures in this cavity are, the auditory ossicles, malleus, incus and stapes, with their muscles, and the chorda tympani nerve. These are placed in the upper anterior portion of the cavity, known as the attic. An opening

in the upper part of the posterior wall of the "cavum tympanum" leads into a small cavity called the auditus. This cavity communicates with the mastoid antrum, the most important of all the air spaces in the mastoid process. About the sixth month of fetal life the antrum may be seen as a cell in the cartilaginous plate, which during the periods of childhood and adolescence develops into the osseous mastoid process with its numerous pneumatic cells. The position of the antrum varies, being on a higher plane in childhood and youth than in adult life.

Pathological Conditions.

These will be more clearly understood if we keep in mind the structures involved and their functions. Special attention should be paid to the nose, throat and chest, for it is from these sources that the eustachian tubes are most frequently affected. If there be any obstruction to the free escape of air, such as that produced by adenoids, deflection of septum, or hypertrophied turbinates, foreign bodies, such as particles of food, or infectious matter may be forced into the tubes during any violent expiratory efforts, such as coughing, sneezing, or "blowing" the nose. The passage of infectious material from the pharynx into the eustachian tubes will be followed by morbid processes of a more or less virulent type, according to the character of micro-organism present. In the absence of the more virulent toxic elements the morbid processes may be limited to a mild hyperæmia of the mucous membrane, with increased secretion of serum. This condition may extend throughout the whole middle ear section, remain active for a few days and then subside completely. A more virulent type of infection is followed by destruction of the superficial layers of the mucous membrane, infiltration of the deeper structures, accompanied by a more or less profuse muco-purulent or purulent discharge. This morbid process may extend throughout the whole tract, and persist for days, weeks or months, but finally subside if efficient drainage be procured without any material interference with either the structures or their functions. The most virulent types of infection, *e.g.*, those sometimes associated with scarlatina and diphtheria, cause rapid and widespread destruction of both tissues and functions. In these cases the mucous membrane is exfoliated, and the deeper structures attacked—muscles, cartilage and osseous tissues destroyed—and the septic material disseminated through vascular and lymph channels. The cranial cavity may be invaded in one or more places, purulent matter may burrow between

dura mater and skull; acute, local or diffuse meningitis set up, or more or less deeply seated cerebral or cerebellar abscesses result from infection of the brain tissue.

The chronic processes that may follow an acute attack are both varied and interesting. Beginning with the eustachian tube the conditions to be found are about as follows: A discharge, varying in character and quality, and more or less occlusion from stricture; any interference with the patency of the eustachian tube impairs its function as a ventilating shaft. In the absence of proper ventilation the "cavum tympanum" is exposed to infection, and thus liable to become involved in acute and chronic suppurative processes. The character of the morbid fluid in the "cavum tympanum," as well as its quantity, may cause irreparable injury to the ossicles and their articulations, to the muscular, mucous and nervous structures, and the membrana tympani. Pressure on this membrane may disintegrate it—the internal mucous layer, and the external dermal one, may be detached from the central fibrous layer. Pus may escape from the cavity and burrow outward behind the wall of the external auditory canal, and cause some bulging of its walls, or even complete occlusion of it. Infectious material may pass backward into the auditus, and from it into the mastoid antrum. From the latter the pneumatic cells may become infected, and if the infection be of a virulent type the partitions between these may be broken down, and the whole interior of the mastoid process converted into a septic tank. Pus may follow vascular channels through the wall, and produce a sub-periostral abscess on the outer surface of the mastoid. What is technically known as "Bezolts' Mastoiditis" is the escape of purulent material from the tip of the mastoid into the sheaths of the structures in the neck. Pus may burrow backwards and form an abscess near the spine, or forwards towards the larynx, or downwards to the clavicle, or perchance reach the pleural cavity.

Septic material may gain access to the internal ear through destruction of the membranes closing the foramen ovale and foramen rotunda. The impairment of the sense of hearing will depend upon the extent and virulence of the inflammatory processes set up by the virus.

If the inner wall of the mastoid antrum become involved pus may readily gain access to the lateral sinus. When the virus reaches the interior of this vascular channel a thrombus may form, producing more or less occlusion. General septicaemia may occur early or late, through breaking down of the throm-

bus. To sum up briefly: The acute stages following a mild septic infection of the middle section of the auditory system, varies in duration from a few days to several weeks, and the completeness of the recovery depends on the amount of injury done, and the efficiency of treatment.

The chronic stage is extremely variable in character and duration. The most common feature is a purulent discharge through the external auditory canal by way of a perforated drum. This discharge may be quite profuse during one period, and quite scanty, or even complete cessation of it, at another. Any obstruction to the free exit of pus aggravates the symptoms. The degree of deafness depends upon the structures involved, and the extent of injury inflicted on them by the morbid processes.

Symptoms.

The physician, during attendance on any patient—especially if it be a child—suffering from an acute infectious disease, should, in naval parlance, be always on "the bridge" watching for any evidence of middle ear complications. Pain is one of the earliest and most common symptoms. It varies in intensity, and there may be such marked remissions as to cast doubt on the probability of the ear being involved. It may be deeply seated, or widely diffused over the lateral surface of the head. Special attention should be directed to ascertaining the presence of pain over the mastoid process. Pressure or percussion may elicit pain not otherwise noticed by the patient. The ordinary symptoms associated with a febrile process, *e.g.*, elevation of temperature, headache, or anorexia will be present. If the specific virus gain entrance into the cranial cavity, cerebral symptoms will develop, but as these belong to medical classics we need not stop to detail them. When pus accumulates behind the wall of the external auditory meatus there will be at first a brawny discoloration of the tissues lining the canal, and later a bulging inward of these, that may even cause occlusion. The drum-head may be hyperaemic, or may bulge outward, or present a perforation. One or more strictures in the eustachian tube may prevent inflation of the "cavum tympanum." Should pus appear under the periostrum of the mastoid, or in the tissues of the neck, there will be swelling, œdema, discoloration and tenderness. All the discharges will be more or less purulent, while the suppurative processes continue to be active. The degree of deafness is variable.

Etiology.

Any conditions, *e.g.*, unsanitary surroundings, overwork, dissipation, worry, hereditary taint, naso-pharngeal obstruction, especially adenoids—that impair vitality are predisposing causes. The exciting causes are, traumatism, and the entrance into this tract of the special pathological micro-organisms associated with acute infectious diseases, especially scarlatina and diphtheria.

Treatment.

A large mortality and innumerable cases, with more or less impaired hearing may be charged up to the ignorance of the laity in regard to the serious significance of ear trouble; but in too many of these cases there is a large debit account, chargeable to what must, in truth and justice, be called criminal ignorance or indifference on the part of the attending physician. Who of us that have been in general practice for even a few years have not given, after a somewhat hasty and perfunctory examination of these ear complications, some slip-shod advice, and practically left the treatment of the ear in the hands of unskilled and ignorant attendants. Such conduct on the part of the physician may have been tolerated and excused in the past; but to-day it is absolutely intolerable and inexcusable. Should not the physician be held as strictly and as legally responsible for the prompt and proper treatment of disease of the ear as he is for that of a fracture or any other injury? Intelligent and unfagging vigilance should be the talisman of the physician in treating disease, especially when the liability to ear complications is present. The physician should carry in his grip a mirror and a case from which he can select an ear speculum of suitable size, some sterile cotton, a pair of long, narrow blade forceps bent at an angle to the handle, and some probes; also an antiseptic solution, *e.g.*, sterile glycerine, an ounce of a saturated solution of boracic acid to two ounces of alcohol, or an ounce of one per cent. solution of bichloride to two ounces of alcohol. The solution is to be warmed and a few drops instilled into both ears. The speculum is warmed, disinfected, and introduced, and under good illumination the external auditory canal is to be gently, but thoroughly cleansed with swabs of absorbent cotton. Both ears are to be treated in the same manner, and a careful inspection made of the condition of the drum-head and canal. An aseptic examination of the ears should be made at first visit to a case of scarlatina, diphtheria or typhoid, and repeated at intervals of longer or shorter duration, as the case

may demand. The auditory canal should be kept aseptic, in case a perforation of the drum should take place unexpectedly. In the acute stage of any infectious disease, no effort should be made by either patient or physician to inflate the middle ear, lest infectious material be forced into the eustachian tubes. The patient should be taught how to blow the nose, so as to allow the free escape of air. The pharynx and nasal chambers should be kept clean by means of cotton swabs, moistened in a solution of menthol and albolene, or this solution may be used in the form of vapor. The febrile conditions present in the acute stage are relieved by the usual means, and the constant application of heat made over the seat of pain, mitigates the suffering. Anodynes should be used when necessary. If conditions do not improve in twelve or twenty-four hours, and earlier, if there be bulging of the drum, a free incision of this membrane, under strict aseptic methods, is not only safe but usually affords marked relief. A narrow strip of aseptic gauze may be placed in the canal, or perhaps better left freely open, and its outer orifice slightly packed with sterile cotton. It is much safer to keep the canal clean by means of cotton swabs than by syringing. If the syringe be used the stream should not be directed toward the opening of the drum lest the fluid enter the tympanic cavity, and force septic material into the auditus and antrum. With free drainage, the majority of these cases get well quickly.

When symptoms, pointing to an involvement of the mastoid antrum and pneumatic cells, persist after a free exit has been secured through the drum for the fluid in the cavity, a more radical operation becomes necessary. In regard to the radical operation, when it is possible to do so, it is better to have the aid of a specialist or competent surgeon, as complications, such as brain abscess, or a thrombus in the lateral sinus may be met with. However, in the absence of such assistance any one possessing ordinary surgical skill, and who has a clear conception of the anatomical structures involved, especially the position of the facial nerve, and lateral sinus, should find but little difficulty in doing all that is necessary to secure efficient drainage. An incision is made through the soft structures on the surface of the mastoid. This should be about an inch and a half in length, nearly an inch from the auditory canal, and extending to the tip of the process. The hemorrhage is arrested and the anterior flap drawn forward, together with the posterior wall of the auditory canal. By means of a chisel, trephine or gouge a narrow strip of bone is removed and direct communication is established between the two cavities—tympanic and

antral. Efficient drainage may be effected through the opening in the drum. The condition of the ossicles, the other mastoid cells and the wall of the lateral sinus must be noted, and all diseased tissue removed. A portion of the lateral sinus, and of the jugular vein may require excision in case of a thrombus in the former. The route of infection, leading to abscesses in the brain, may have to be followed, and these evacuated. Abscesses in the neck must be promptly opened and free drainage established. When efficient drainage has been secured by a radical operation the results as a rule are exceedingly satisfactory both as to improvement in hearing and removal of the suppurative process.

In conclusion, the purport of this paper was not to deal very fully with operative measures, as there are those present who can discuss these far more effectively, but to place great emphasis on the imperative need for vigilant care in our treatment of all those acute infectious diseases during the course of which the middle section of the auditory system is so liable to become involved. Prompt recognition of the early symptoms and efficient treatment may—and generally does—save our patients from that dire affliction deafness, and from the dangers incident to suppurative processes in such close proximity to the brain. In these cases the proverbial "ounce of prevention" may turn the scale from death to life, or from a grevious disability to usefulness and happiness.

PRIMARY ULCERATIVE ENDOCARDITIS WITH RECOVERY.

By John V. Shoemaker, M.D., LL.D.,

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The patient, a widow; age, 51 years; nativity, United States.

In August, 1905, on a hot day, she was obliged to do a great deal of cooking, and became very much overheated. That evening she took a severe chill which was followed by fever and marked prostration. The following day she had another chill, followed by fever and prostration, but the chill did not occur at the same time as the previous day. For the next two days she had no chill, but was weak, complained of great thirst, bowels constipated, and headache. On the fifth day of her illness she had a very severe chill late in the evening, followed by high fever, profuse sweating, and marked prostration. On the sixth day she had another chill in the morning, followed by fever and prostration. On the 7th, 8th, 9th, 10th, 12th, and nearly every day throughout her illness, she had a chill, followed by the very same symptoms as stated above; but the chills never occurred at the same time, nor did they last exactly the same length of time. The temperature during the height of fever varied from 102 3-5 deg. F. to 104 deg. F. Her first physician diagnosed her trouble malaria, and prescribed quinine to its full physiological effect, but without avail. A second physician thought her trouble one of typhoid fever, and treated her accordingly. She had been sick from August until January, when the third physician and I in consultation diagnosed her condition as ulcerative endocarditis. At that time she was not expected to live. Her temperature fluctuated from 99 deg. F. to 104 deg. F., never being the same at the stated hour from day to day. The pulse varied from 100 to 120 per minute, and her respiration from 20 to 30 per minute. Most of the time she was in a semi-conscious condition with slight delirium. She had drenching sweats, after which she was exhausted, and her temperature would often fall to 97 deg. F.

The laboratory findings, history of rheumatism, and acute infectious fevers were negative, and the physical examination revealed nothing more than a slight hæmic murmur. Hence, we based our diagnosis entirely on the "status præsens," and directed the treatment towards that end, which was largely supportive. The feeding was pushed vigorously, and the most

concentrated liquid foods, such as milk, eggs and freshly expressed beef juice, were employed.

Medicinally the fluid extract of convallaria majalis was prescribed as a vascular stimulant, giving five minims four times daily and increased the dose one minim daily until she took ten minims four times daily. Convallaria was selected on account of its special influence upon the heart. In small doses this drug strengthens the heart's action; while in large doses it restrains excessive cardiac activity. In mitral diseases it is of especial value. It quickly relieves the dyspnœa and palpitation, and after having been given for two or three days, may be discontinued for a week or more without recurrence of the symptoms. Convallaria seldom disagrees with the stomach, and its cumulative action is seldom observed. As a rule the appetite and digestion seem to improve under its use and a regular action of the bowels is promoted. It increases the secretion of urine, and when compensation has failed, invigorates the heart and reduces œdema. It favorably influences the diuresis in dropsy of renal or hepatic origin. In chronic Bright's disease it reduces the œdema and lessens albuminuria. Good results have followed its administration in cardiac debility, due to pneumonia or typhoid fever. In some cases of idiopathic asthma it relaxes the spasm of the arterioles. It sometimes is serviceable in tic douloureux and other forms of neuralgia, insomnia, and in restlessness of fever. The palpitation and dyspnœa of phthisis are mitigated by the use of convallaria. It is, likewise, of utility in the irregularity of the heart dependent upon acute pneumonia, bronchitis or emphysema, but is ineffective in fatty degeneration of the heart. At the end of ten days' treatment with convallaria the fluctuation of temperature was less, being from 98 deg. F. to 102 deg. F. The pulse became more regular, of better volume and from 90 to 95 beats per minute. The chills and fever were also less marked. Twenty days after convallaria was employed she began to run a normal temperature, had no chills or fever, pulse from 80 to 85 per minute. Improvement was gradual, with only a slight remission of temperature for two days. After convallaria had been administered for a month she was given tincture of strophanthus, minims ten, four times daily, and 1-40th of a grain of strychnine sulphate. The object for prescribing strophanthus was to obviate the possible cumulative action of convallaria, and because it is also a vascular tonic and stimulant. It does not disturb the gastro-intestinal canal; has very little or no cumulative action, but its effects are not so last-

ing. It slows the heart beat, lengthens the intervals between the contractions and increases the energy of the muscular tissue. The rise of arterial tension produced by strophanthus is due principally to the increased force of the cardiac contractions. It has a diuretic action due to the rise in blood pressure. It, moreover, has a quieting influence on the brain and medulla oblongata, thus becoming a nerve sedative.

The prognosis in this patient was very unfavorable. We expected the worst, and I believe that the convallaria saved her life in spite of the marked septic condition she presented. Ulcerative or septic endocarditis usually ends fatally, and those that recover are supposed to have had a benign form. I do not believe that such was the case in this patient. She had so many and severe symptoms of sepsis for too long a period to consider it a benign form.

A SUCCESSFUL CASE OF CAESAREAN SECTION.

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On February 17th I was requested by Drs. Langs and G. S. Bingham, of Hamilton, to perform Cæsarean Section on Mrs. P. The patient had been in labor for eighteen hours, the waters had ruptured, the forceps had been applied several times without result. On account of the pelvic contraction, the conjugate diameter being estimated at eight centimetres, it was considered that natural delivery would be impossible, so that the Cæsarean Section was thought to offer the best chance for both the mother and the child. The patient was immediately removed to the hospital, and the operation at once proceeded with. The skin of the abdomen and the vagina were prepared in the usual way, the incision was made from two inches above the umbilicus to the pubis, and the peritoneum opened. The uterus was dislocated forwards out of the abdominal cavity, the intestines protected with moist gauze pads. The left ovarian vessels and round ligament were doubly clamped, and the tissues between them divided. This procedure was repeated on the right side, the bladder was then rapidly separated from the cervix by blunt dissection, the right uterine vessels were clamped, the vagina severed at the junction of the cervix, the uterus turned to the right and the right uterine vessels clamped, and the remains of the right broad ligament divided. The uterus was now handed to assistants who immediately incised

it, extracting a living child and ligated the umbilical cord. It was estimated that three minutes were occupied from the time of the initial incision until the assistants received the uterus. The broad ligaments and vessels were then ligated in the usual manner of a pan-hysterectomy, the vaginal vault was closed with a continuous catgut suture and the peritoneum whipped over the vaginal stump. The gauze pads were removed, and the abdominal wound closed without drainage in the usual manner. The mother made an uneventful recovery and left the hospital on March 1st.

The advantages claimed for this method are the following: (1) It can be rapidly and readily performed, no hysterectomy is so easy as a puerperal one. There is no comparison as regards celerity and ease when contrasted with a hysterectomy for fibroids. As a result of the pelvic contraction the uterus is very much elevated, the broad ligaments are stretched, and the vagina lengthened to an unusual degree so that the performance of the operation is very much facilitated.

(2) The operator is not detained by having to open the uterus, extract the child and placenta, and take care of the amniotic fluid if present. There is no need of undue haste in performance of the operation. Up to the time of clamping the uterine vessels there is abundant supply for the child, and it is probable that even one set of uterine vessels could supply enough blood to prevent asphyxiation of the child. There are cases on record where after the sudden death of the mother the child has been found alive at the end of half an hour.

It will be seen from the description of the operation that it is a pan-hysterectomy, or practically a Porro operation without opening the uterus for the delivery of the child and placenta.

It has in addition all the advantages claimed for the Porro operation over the Sänger Cæsarean Section, namely, the uterus if infected is removed, thus obviating one of the dangers of sepis. There is no fear of post partum hemorrhage or decomposition of the lochia. The mother is effectually sterilized, and in my opinion a patient who has once been subjected to the dangers of Cæsarean Section should never be allowed to become pregnant again.

Selected Article.

THE LAMINARIA TENT, WITH SPECIAL REFERENCE TO THE INDUSTRY OF TENT-MAKING IN SCOTLAND.

By Sir William J. Sinclair, M.D.
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To the readers of the *Caledonian Medical Journal* the revival of the tent-making industry, even on a modest scale, must have a special interest over and beyond the professional question of rival claims of merit and utility in the employment of laminaria, or other agents, for the purpose of dilating the non-pregnant uterus. Although the stem of the sea-tangle was first proposed and applied for the purpose of dilating the uterus by a Scottish general practitioner, the industry of tent-making became almost entirely German, and it has remained almost entirely a German monopoly until now. The energy and enterprise shown by the German makers, and the scientific appreciation of the value of the laminaria dilator under suitable conditions, by medical practitioners in Germany, are highly creditable to German medicine, all the more so when it is remembered that all or most of the raw material has to be obtained from the United Kingdom of Great Britain and Ireland.

This is not the time or place to tell the whole story of the attempts to dilate the canal of the uterus. The efforts began with the modern developments of gynecology. We find Sir James Simpson experimenting with a metrotome as early as 1843, and later he employed in certain cases a cutting instrument, metrotrome or hysterotome in the form essentially of a bistoury caché introduced into the canal of the uterus, expanded, and withdrawn. What Simpson's practice continued to be, I do not know, but I had occasion as a house surgeon to assist one of his pupils, who used the hysterotome, in the out-patient department of a hospital. The usual practice was for the "chief" to introduce the instrument without the aid of a speculum, accompanied by the suppressed murmurs of the patient, to screw open the blades and then withdraw with a sudden jerk, while the poor patient gave a scream, and writhed in suffering. The patient got up, with the blood running down her thighs and walked away home. Many of them never visited the out-patient room again. And this was still the prac-

tice of some "specialists" after Lister's reputation had been established!

The use of the hysterotome was never a justifiable practice, even in the hands of the most careful and conscientious gynecologists; it was entirely barred for the general practitioner, partly on account of difficulties in technique, and partly because he had to be in close attendance on the patient after the operation, and bear the responsibility and anxiety of the resulting illness. Probably all that remains in our practice of this *dilatation sanglante*, as a French writer calls it, is the incision with scissors applied to the posterior lip in certain conditions of anteflexon.

With advances in gynecology, the need for some safe and easy method of dilatation soon became felt, and the sponge-tent came into use about sixty years ago. The curette was invented and introduced into practice by Récamier before that time, but without a readily available and safe method of dilatation the results of practice were disastrous, and the instrument, now one of the most valuable in the armamentarium of the obstetrician and gynecologist, fell into desuetude, and was for a period almost forgotten.

When we think of the tentatives at dilatation which had become absolutely essential to the proper diagnosis and treatment of diseases of the uterus, which had been discovered, over and above Bennett's "erosion," and of the general dissatisfaction with the sponge-tent, we can form some idea of the importance of the observation and discovery of the Ayrshire country doctor who first called attention to the qualities possessed by the laminaria or sea-tangle.

The original article by Dr. Sloan, of Ayr, consisted of three pages and appeared in the October number of the Glasgow *Medical Journal* in 1862. When the present insane practice of tearing open the uterus, regardless of the miserable remote consequences to the wretched sufferer, is forgotten, or remembered by the old gynecologist with a blush, as we now recall the mania for "oöphorectomy," the date of Dr. Sloan's contribution will stand out in the annals of gynecology. The article in which sea-tangle was first brought prominently into notice is entitled "The Dried Stem of the Sea-Tangle (*Laminaria digitata*) as a Substitute for the Tents in Ordinary Use." It will be found in the *Glasgow Medical Journal*, 1863, vol. x. To understand the experimentation with tangle-tents, the early satisfaction expressed by some, the cowardly silence concerning certain drawbacks and mishaps of many, and the final suspicion and

unpopularity in the United Kingdom, we must keep in mind that the introduction of tents was premature, just as the curette was prematurely born though viable. The time was not ripe; it was before Lister and antiseptics. Dr. Sloan thought that tents would have been used more generally in surgery if a suitable material had been found capable of being easily cut into the desired lengths by the surgeon himself. "Such a substance will be found in dried seaweed."

In the testimony to the importance of Dr. Sloan's discovery, and the usefulness of tangle-tents, we soon come upon the evidence of the first causes of failure. Dr. Gray, of Glasgow, in giving reasons for preferring the tangle to the sponge-tent, said, "It does its work well, and the same tent can be used repeatedly!" One of his objections to sponge-tents, which was universally recognised, was "the very disagreeable smell." Some of us still at work under happier conditions are old enough to remember that "fœtor."

By the next year Professor Simpson, of Edinburgh, later known as Sir James Y. Simpson, with his alert intellect, had seen the merits of Dr. Sloan's proposals, and he had taken the matter in hand at once. He brought the question of dilatation by sea-tangle before the Edinburgh Obstetrical Society in March, 1864. Simpson reviewed the history of the methods of dilatation. He himself had been accustomed to use sponge-tents. As a matter of history, we know that he tried sponge-tents to induce premature labor as early as 1848. Simpson exhibited some laminaria tents which he had been using. They were prepared for him by "Krohne, in London." The name is suggestive. He had also some bougies for the male urethra and the lachrymal duct. He spoke in some detail of the advantages of sea-tangle as compared with sponge-tents. If we wanted to be very economical, the same tent might be used a second time after being simply dried—a process which would be attended with much danger if we had to do with a piece of sponge that had once been impregnated with deleterious discharges. So the days of sponge tents should have been numbered. Reputations had been made by the publication of articles on some modification in the make of a sponge-tent, just as professional distinction has been acquired in later years by some trifling change in the blade or shank or handle of somebody's obstetric forceps. Simpson's great influence and eminence should have annihilated sponge-tents, just as he brought about the introduction and general use of laminaria; yet, almost *incredible dictu,* it is not more than three months since I was consulted about a case in which a sponge-tent had been used by

a medical practitioner with the object of procuring abortion on account of an alleged complication of pregnancy; that is to say, about sixty years after Simpson recognized that his experiments had failed!

In the discussion at the meeting of the Obstetrical Society of Edinburgh, Dr. Keiller gave his experience of tangle-tents —he "had found them answer the purpose admirably"; he had also found that after drying they were useful a second time. Dr. A. R. Simpson had found the tents apt to slip, and he made a suggestion, which he will find bearing fruit in the modern "*Iona*" tent. Dr. (now Sir) Alexander Simpson suggested that the tent should be kept from slipping by means of a piece of sponge, or by a worsted thread wound round the point. Some of our Iona tents are made with a button, which serves the same purpose when they are supported by a vaginal tampon of suitably prepared lint.

The great influence of Sir James Simpson's advocacy was immediately shown by the appearance of numerous contributions in the medical journals of Europe and America. To take only one example of home production—the paper of Dr. J. Braxton Hicks, in THE PRACTITIONER, of August, 1869, on "Sea-Tangle Tents," may be referred to. In his method of introduction there could be no precision, and there was, of course, no disinfection. Among other things, he suggested the use of tents, combined with that of the hysterotome. Braxton Hicks, like others, claimed for the sea-tangle, as compared with the sponge, that it did not retain the secretions and produce an offensive odor; there was, "consequently, less risk of irritation, locally or generally." The modern interpretation of "irritation generally" is expressed in the word "sepsis." In summing up the disadvantages of using laminaria tents, the author drew his illustrations exclusively from classes of cases in which no modern gynecologist would think of employing them. "With these exceptions, in cleanliness, certainty of action, ease of introduction, and minuteness, they are certainly not equalled by any other material at present in use." These terms might to-day be employed in describing the Iona tent.

But voices were soon raised in warning of the dangers declared to be inherent in the use of tangle-tents. One of the first was that of Dr. Lauchlan Aitken—"On the Dangers attending the use of Tangle-Tents"—*Edinburgh Medical Journal*, August, 1870. The author had been struck with the number of "accidents and complications" resulting from the use of sea-tangle, and, as a surgeon, he called attention to the complete silence of "gynækological writers" on the subject of dangers

attendant on dilatation of the uterus by tents. But, as an Edinburgh man, he naturally says, "I cannot forbear reminding you that the idea of dilating the womb for the purposes of diagnosis and treatment was one of the many products of the fertile genius of my late friend and master, Sir James Simpson. . . . It was as early as the year 1844 that Sir James Simpson first wrote an article on the subject of sponge-tents in the *Monthly Journal of Medical Science.*" Referring to the services of Dr. Sloan, of Ayr, in 1862, Dr. Aitken wrote, "It was principally owing to the influence and example of Professor Simpson that it (sea-tangle) came to be extensively used by the profession generally as a convenient means of dilating the cervix." That he was not a gynecologist himself, Dr. Aitken proves by alleging that sea-tangle was being superseded by the "dilating bag" of Dr. Barnes, while naturally, and probably with justice, claiming the original suggestion of elastic dilatation by a bag from Dr. Keiller, of Edinburgh. Perhaps the most valuable portion of Dr. Aitken's article is the summary account of the experiences of the "gynækological writers," who make only very reticent statements about unfavorable effects, or admit none. There is, however, enough evidence to enable him to hint that "the dog will soon get an ill name." The sea-tangle tent is already falling under suspicion.

Aitken next proceeds to give his own experience. He had no fatal case directly attributable to the use of tents, but he enumerates among the evil effects, inflammaion of the pelvic peritoneum, of the pelvic cellular tissue, endometritis, hemorrhage, pelvic hematocele, laceration of the cervix, spasmodic contractions of the uterus, hysterical convulsions, and other minor mishaps. His case is too strong. He might have been a modern "quick lunch" American gynecologist "cracking up" the rapidity and power with which his screw dilator could tear open the uterus, in contrast to such a "slow," old-fashioned method of dilatation as that of the laminaria tent. When we examine Dr. Aitken's cases in detail, we cease to deprecate the force of his language; it is his practice we must deplore. Still, it was on the highest level to be expected from the knowledge and experience of the time. His first case appears to me to have been gonorrhea of the uterus, cervix and corpus. In the second case, the tent, without any very clear indication, had been introduced *ten* days before the patient's admission to the hospital! With all our antiseptic precautions, none of us would nowadays think of dilating by laminaria in any case mentioned by Dr. Aitken. Still, the times were not ripe; mis-

haps, if not disasters, did occur, the prejudice grew, and comparative desuetude for tents followed in due course.

The prejudice against tents became much stronger in America than even in Great Britain and Ireland. To trace the history is tempting, but the story is too long for the present occasion. We find in the history the rise and fall of tupelo, gentian root, and corn-stalks. Sponges lingered long among the gynecological appliances in the United States. Emmet's method, as described in his *Principles and Practice of Gynecology* (1879), shows the American gynecology of the time at its best, and the author occasionally hints at the worst. "In no instance will I introduce a tent in my office and allow the patient to return home." If this is to be attributed for righteousness, what must have been the practice of the less careful neighbors? Emmet had learned by experience. He once introduced a sponge-tent in his "office," and sent the patient away with a warning that she must go home and rest. She went to a ball the same night with the tent *in situ!* Emmet raised many objections to the laminariâ tent, among others, the curious one that it expands more slowly, and also that it frequently causes "more irritation" than the sponge-tent. Emmet's opinions on the relative merits of sponge and tangle-tents are well worth consideration, because we are now unanimous in rejecting sponges, and yet Emmet could say, "My practice for years has been almost entirely free from any bad consequences attending their use." He had used them since 1863. There is here a sort *à fortiori* argument in favor of laminaria dilators.

Grandin, writing about ten years later than Emmet, gives expression to some deplorable opinions on dilatation and exploration of the uterus—"Dilatation of the Uterus for Diagnostic Purposes"—in the *American System of Gynecology* (1887). The relevancy of this work to our present purpose is that it describes another stage in the hasty displacement of laminaria as a dilator. So wrong-headed is the teaching about laminaria tents given in this treatise that one cannot help thinking sometimes while reading that the descriptions and opinions must be the result of "book-work"—not of experience. But, unfortunately, the opinions expressed and practice described have been supreme in the United States for nearly twenty years. Grandin gives the first place to steel-branched dilators and conical graduated sounds. The graduated sounds will "take more time." "Tents are the slowest of all dilating agents, and for purely exploratory purposes they will doubtless, in general, yield to the branched dilators, *except where*

there is a very rigid cervix to overcome"! Where there is a very rigid cervix is just the typical case for laminaria softening and dilatation, and for "overcome" we should read "lacerate" or "tear open." The laminaria tent is, according to Grandin, being gradually superseded by tupelo for exploratory purposes. It is declared to have little dilating power, and to possess other imaginary qualities; and the conclusion is that "this form of tent may, therefore, be ruled out as an agent of value for dilatation to be followed by digital exploration." And, again, "the tupelo (root of *Nyassa aquatica*) is the agent *par excellence* in tent form for dilating purposes." Grandin speaks of *incising the os internum* as a preparatory measure, and he "favors" steel-branched dilators and tupelo tents in cases of excessive cervical rigidity. "The finger, of course, ranks above all other agents!" And it was on a basis of such special pleading for time-saving machinery, without the knowledge and without imagination to grasp the ruinous consequences of haste and force, that the gentlest, safest, and most efficient methods of dilatation ever invented were rejected in the United States; and the atrocious practices of the present time came into fashion.

Fortunately, this practice has remained unheeded by the most of Europe, except by the usual contingent of English gynecologists who follow the newest foreign fashion. This type of American succeeds in saving time; the same type of Englishman saves trouble, and gets his newest knowledge from the surgical instrument maker. Mechanical dilators are occasionally required; we all need the "Hegar's dilators" type of instrument to fall back upon, but we meet with amazing ignorance of the fitness of cases for their use. I have repeatedly seen the cervix uteri torn through and the broad ligament shockingly lacerated by the forcible use of these bougies. In one case a loop of intestine was found projecting through into the vagina, and it had been a good deal manipulated to ascertain its identity. I have *heard* of similar cases; we do not read about them in the medical journals. The mischief is wrought by forgetting that the rigid non-pregnant cervix should first be softened by means of the laminaria tent if the bougie is to be used at all.

The fact that laminaria tents have been used continuously for many years in France and Germany, and with remarkable scientific appreciation of their merits and limitations, may be accounted for, to some extent, by their later introduction into these countries when the era of antiseptics had arrived. The petulant condemnation of the *material* as productive of sepsis

by British gynecologists was almost unknown in Continental Europe. That tangle-tents are obtainable at all at the present time in this country is largely owing to the Continental demand and supply.

Among the best of all the articles on the use of laminaria tents which I have ever read in that of Dr. Fraipont, of the University of Liege—*De la dilatation utérine en gynécologie,* published also in 1887, the year of Grandin's pioneer effort in the opposite direction. For Fraipont the use of laminaria tents is the only method which is suitable in all cases; it is devoid of danger, and may be employed by general practitioners as well as specialists. The author passes in review the various methods of dilatation, and he describes the rapid method of Schroeder, which consists in dividing the vaginal portion on both sides up to the *cul-de-sacs,* and forcing open the os internum by the finger. Fraipont says of this method, "C'est là un procédé que je qualifierais volontiers de brutal." Yet, in the same year, Grandin wrote, "The finger, of course, ranks above all other agents." We have read the same opinion in many an English and American manual of midwifery and of diseases of women since then. On the other side, we have many experienced operators and teachers, like Leopold, of Dresden, who said, less than two years ago, that it was impossible to be too urgent in warning against haste and attempts at digital emptying of the uterus—"Es kann doch nicht dringend genug davor gewarnt werden."

Fraipont strongly advocates the use of lamanaria; he asserts, what all now recognize, that, as compared with tupelo and genitan root, its co-efficient of dilatation is the highest, and it can be the most readily disinfected. He also was among the first to call attention to a special quality of the laminaria tent, which gives it, perhaps, its strongest claim to general use. It produces *dilatability,* it softens the tissues of the uterus within twelve hours or so after introduction, so that mechanical dilators can be employed without the risk of laceration.

Galabin, in his *Diseases of Women* (sixth edition, 1903), gives, as was to be expected, an eminently judicious and practical account of dilatation of the cervix. Mechanical dilators have to a great extent superseded the use of tents. When tents are not used in certain cases "the lining of the cervix is inevitably split and sometimes a great part of its thickness." Laminaria tents are the best to commence dilatation with, but "they cannot easily be obtained of large size." This reproach will soon be removed—it is merely a question of manufacture—the tangles are large enough.

During a tour of exploration round the coast of Scotland, nearly two years ago, I had a conversation with a boatman in Orkney about the growth of tangles. He said he could send me some "sax faddoms" long. I hinted at being satisfied with something shorter, but I obtained some sections enormously thick. As will appear later, the "champagne cork" type of tent may be obtained for the treatment of placenta previa without dilatation of the os, so as to permit of version without appreciable loss of blood.

My object in writing has been not so much to elaborate an article on dilatation of the cervix uteri by laminaria tents, as to indicate how the prejudice against the use of the sea-tangle originated and grew, on what a small basis of fact and ratiocination it was founded, and what a promising future there is for the properly prepared tent when the reckless methods of dilatation at present in vogue have fallen under the reprobation which they deserve. My desire is to convey to the reader some of the grounds for my own firm conviction that just as the curette was discredited, owing to universal professional ignorance of the conditions essential to safety, and fell into disuse for a time, so the laminaria, properly prepared for gynecological and surgical purposes, will yet be rehabilitated, and will be ultimately recognized throughout the civilized world as the unique material for the purposes for which it was originally prepared nearly half a century ago by the Scottish country doctor.

Perhaps I may be permitted to quote here as relevant a passage from an article on the subject of dilatation contributed by myself to the *Journal of Obstetrics and Gynecology of the British Empire* for September, 1905:—

"If our intention is to bring on labor and to empty the uterus, our method must obviously depend upon the stage of pregnancy. Take a typical case in the early stage, the induction of abortion because of threatened death from hyperemesis. We have the choice of rapid dilatation by graduated bougies on the Hegar principle or by laminaria tents. There is no time now for the discussion of the merits of the sea-tangle, but I would like to express my conviction that on physiological and practical grounds the use of laminaria in such cases is absolutely the best possible treatment. The tent, while dilating the cervix, is also stimulating the uterus to normal contractions or pains. Slowness of action, instead of being considered a drawback, should be recognized as one of its chief advantages. I am quite aware of the casual objection that the laminaria tent may produce sepsis. Laminaria tents may be more easily

rendered aseptic than steel instruments or silk balloons. They might be saturated with germicide fluids and made positively destroyers of bacteria. It is true that a good deal may be done to improve them in many ways, for no important modification has been introduced in their manufacture for nearly fifty years."

For my own part, I have always used laminaria tents, and have prevented mischances by a rigid antisepsis applied to the patient's genital organs and to the dilating agent. For the latter purpose I believe the best method is to soak the tent in a hot, strong solution of corrosive sublimate just before introducing it.

I had thought over the introduction of tent-making into Scotland at intervals for several years, and had made several tentatives, which failed owing to the apathy of the men where the tangles grew. About two years ago a fortuitous circumstance led to the present attempt, which gives every promise of success.

The Duke of Argyle has taken a benevolent and active interest in the enterprise from the first, and, through his influence, Mr. Duncan Cameron, of the Argyll Estate Office at Bunessan, in Mull, has cordially supported the scheme, and set the handymen on the spot to work. At present, the tents are made only in the island of Iona, and the name had been adopted for the purpose of connoting certain qualities. The following directions for the making of the tents will indicate what these special points are:—

To make aseptic laminaria tents.—1. Shape the tent while the tangle is fresh out of the sea, perforating as required.

2. Dessicate completely.

3. Place in solution of perchloride of mercury until the tangle recovers its original size by saturation with the mercury solution. (*Note.*—One pellet in one quart of water makes a solution of 1 in 2,000, which is quite strong enough. The color is an analine dye which is not essential.)

4. Again completely dry the tent.

5. Finish by polishing, and introduction of strong linen thread.

The result of this process is that, owing to the structure of the laminaria, every cell becomes saturated with the antiseptic. Hence, with reasonable precautions in the preparation of the patient and in softening the tent just before introducing it, any possible cause of sepsis is absolutely annihilated. No force should be used in introducing the tent, and more than one should never be used at a time. The tent may remain *in*

situ twenty-four, or even forty-eight, hours with advantage. The practitioner may carry them dry in the special box in which they are supplied to him. All that is required before use is then to soften them in hot water or a hot antiseptic solution.

During the last year I have brought the subject of dilatation by tangle-tents under the notice of several medical societies, including the Obstetrical Society of London and the North of England Obstetrical and Gynecological Society, and have shown specimens of the raw material and the finished Iona tent. The interest taken in the subject by many members of the societies augurs well for the future.

Towards the close of last year a circular letter was addressed as time permitted to a considerable number of specialists in midwifery and diseases of women, and to some medical practitioners of my acquaintance. The principal parts of this letter I may perhaps introduce here without impropriety:—

"Dear Dr.——,—For a year or more I have been taking steps with the object of reviving the laminaria tent industry in some of the western islands of Scotland. You may have noticed in the medical press some references to demonstrations which I have given from time to time at meetings of medical societies. I enclose a copy of one such report.

"In order to obtain the support which the industry really deserves on its merits, I am trying, with the co-operation of some of the local colleagues, to form a committee of the best known obstetricians and gynecologists of the United Kingdom, who may be willing to express a benevolent interest in the laminaria tent undertaking. The committee takes no commercial responsibility; it is purely honorary and philanthropic. The only question involving a pecuniary contribution, which may arise, will be contingent on a general expression of opinion in favor of some small bounty being offered to the workers to encourage their first efforts, and to establish the industry on a sound commercial basis. These specially prepared tents, which are, as yet, made only in the Island of Iona, will be put on the market at the cheapest possible rate, and Messrs. Woolley, Sons & Company, of Manchester, have undertaken the work of distribution to the medical profession on the most favorable terms for the workers and their customers.

"Sir John Williams has kindly consented to be chairman of the committee, and Dr. F. H. Champneys will give his support as honorary treasurer. I propose myself to act, when necessary, as intermediary between the makers in the islands and the distributors in Manchester, and shall undertake for a time

the work of honorary secretary. Inquiries may also be addressed to Mr. Duncan Cameron, Argyll Estate Office, Bunessan, Mull.

"I hope you will give the industry the advantage of your support, and of the influence of your name as a member of the committee. . . ."

The result of this appeal has been such that the "committee of influence" now comprises more than fifty of our professors of obstetrics and gynecology, and teachers in the medical schools of Great Britain and Ireland.

As a patriotic Scot, I am constrained to say here that, though there are notable Scottish supporters of the enterprise, the response from Scotland has caused me considerable surprise and regret, I might almost say humiliation. Surely the ignorant revulsion against the use of laminaria dilatation has not established itself more persistently in the land of Sloan of Ayr, and Simpson of Edinburgh, than anywhere else in the United Kingdom.

Kindly permit me to add that the list of patrons still remains open.—*Caledonian Medical Journal.*

Progress of Medical Science.

MEDICINE.

IN CHARGE OF W. H. B. AIKINS, H. J. HAMILTON, C. J. COPP, F. A. CLARKSON AND BREFNEY O'REILLY.

Acute Nephritis.

Croftan, *Clinical Review*: "To the kidneys is relegated the chief disintoxication function of the organism," and so it is possible in certain infectious diseases to prevent the complication of nephritis by an abundance of fluid early in the disease, and by avoiding remedies which irritate the kidneys, as salicylic acid, potassium chlorate, etc. Abundant water can be used only when the renal filter is still permeable for water. When nephritis has once set in the quantity must be much reduced. The diet must be scanty and bland; but in certain infectious diseases, especially in children, it is not a bad plan to withhold food altogether for two or three days.

When milk is not well borne, tablespoonful doses, ice cold in lime water or flavored, are sometimes tolerated, but not more than one litre should be given in twenty-four hours. The addition of cream increases the nutritive value.

During the period in bed the patient should often lie on his face to avoid hypostasis. After recovery he should wear a flannel binder.

For the acute pain, cupping, leeching and the galvano-cautery over Petit's triangle are most advantageous. It is very foolish, during suppression, to attempt to force the kidneys to pass water, which means only irritation to them. As far as possible we must imitate nature and spare the diseased organ by keeping it at rest. The only legitimate diuretics in the subacute stage are alkalies and alkaline mineral waters, given with milk. In severe œdema, when sweating and catharsis fail, emergency diuretics may be used. Since nephritic œdemas are generally cardiac, heart tonics are used with the diuretic, the chief of which is digitalis. Acetate of potash acts only as other alkalies, for it reaches the kidneys as potassium carbonate.

Mild catharsis is advantageous, using castor oil or cascara. Saline purges must be avoided, since salts are irritant and are eliminated with difficulty by diseased kidneys.

Gallop Rhythm of the Heart.

Friedrich Muller (*Munich. Med. Woch,* 1906).

Gallop rhythm of the heart is the normal rhythm with a third sound interposed either in first half of diastole or in the presystolic period. In either instance, of course, the sound occurs in diastole, but according as it is in the first half or the last half of that period it is termed protodiastolic or presystolic. The cause of the sound has been the subject of discussion. An unusually large amount of blood being thrown into the ventricle, or a loss of tone in the ventricular wall might account for the presystolic sound, or again as the auricle is often found both hypertrophied and dilated, the sound has been thought to be due to an exaggerated activity of this part of the heart.

The presystolic and protodiastolic rhythms may change the one into the other and usually the former into the latter.

Gallop rhythm is usually found associated with cardiac failure and the curves which Muller publishes rather go to show that the ventricle is working against great resistance. The lessened cardiac power, the increased resistance, and the rapid heart action combine to produce the rhythm described—conductivity being lowered.

The Position of the Heart in Pericardial Effusions.

Schapozhnikoff (*Rev. de Med.*), with an epitome in *The American Journal of the Medical Sciences,* is discussed with relation to paracentesis pericardii. There is no reason to accept as a rule that, with the increase of the exudate in the pericardium, the heart must of necessity fall backward, because of the fact that it has a greater specific gravity than the surrounding liquid.

The puncture of the pericardium as generally advised in the fourth or fifth left intercostal spaces is not an advisable procedure as this is the spot in which one is most likely to reach the heart. Puncture in the third or fourth right intercostal space close to the sternal border as well as in the sixth left space, is preferable, especially if one finds an absolute dullness at these points. In the case of an abundant exudate the sixth left intercostal space is preferable because here the pleura is pushed farther outward and the diaphragm is depressed.

If the vessels of the heart are ligatured and divided, the heart thus set free falls to the bottom of the pericardial cavity, but when depressed by pressure while the vessels are intact it always rose again to the upper part of the cavity.

Some Modern Methods of Diagnosis in Typhoid Fever.

Schleip reviews the most modern method of diagnosis in typhoid fever. From the time of Halle, it has been known that uncomplicated abdominal typhoid can be accompanied by an impoverishment of the blood, especially of the white corpuscles—a condition called leucopaenia. This phenomenon assumes a practical value, since in most other infectious diseases one meets an increase of leucocytes—a true leucocytosis. One should therefore make regular examinations of the blood in every suspected case of typhoid.

The researches of Riedel and Fürch have shown that leucopaenia is also found in those infectious diseases, which resemble typhoid; also in some septic diseases, as acute miliary tuberculosis, peritoneal tuberculosis, Hodgkin's disease. It follows, therefore, that leucopaenia must be considered as a hematological phenomenon of a general character, not as one found in typhoid alone. If we accept, as the average, the number of 7,500 white corpuscles in 1 mm.c. of blood, we see that the leucopaenia begins to show itself at the end of the second week. Up to that time the number may be normal or above. The leucopaenia not set down continues beyond the stage of convalescence.

The relations which exist among the various kinds of leucocytes may have a more definite value. In normal conditions, the relations may be represented as follows:—

Neutrophil leucocytes	70 to 75	per cent.
Lymphocytes	20 to 25	"
Transient forms	3 to 5	"
Eosinophils	2 to 4	"
Basophils	¼ to ½	"

During the first two weeks the neutrophils preserve an almost normal proportion, and then are reduced to 40 per cent., returning to the normal quite late in convalescence. The lymphocytes are diminished or remain normal to the end of the second week, when they increase to 40 or even 60 per cent. Such increase may last several weeks after defervescence.

The eosinophil cells disappear at the beginning of the disease, to re-appear in normal quantity at the beginning of convalescence. This is found in uncomplicated typhoid. We must emphasize the fact, that, while the numbers of white corpuscles may be of doubtful value in diagnosis, they are of very great value in prognosis. In grave cases we find the largest diminu-

tion in the total number of leucocytes, some having only 1,800 per mm.

Another modern method is the re-action of Grüber-Widal. This is based on the power possessed by the blood-serum of typhoid patients of immobilizing and agglutinating the bacilli themselves. In practice, we find that this re-action is much limited in its clinical value and application. In order to obtain an ideal re-action, one would desire a sample of fresh bacilli. This can rarely be obtained, except in large hospitals.

The third method—one which can be carried out with great advantage—is that of direct examination of the blood for the typhoid bacillus circulating in it. Schottmüller, by this method, discovered the bacillus in 182 cases out of 220 examined. Schleip found the bacilli in 15 cases out of 16 examined. To make this test positive, it is necessary to have not less than 10 cmc. of blood. This quantity can be diluted (in order to avoid coagulation), according to the method of Rolles, in a peptonic solution, composed of 5 of peptone, 50 grape-sugar, 100 of water.—Translated from *Giornale Internazionale delle Scienze Mediche,* by HARLEY SMITH.

OBSTETRICS AND GYNECOLOGY.

IN CHARGE OF ADAM H. WRIGHT, K. C. M'ILWRAITH, FRED. FENTON AND HELEN MACMURCHY.

Inversion of the Uterus.

Dr. Frederick Fenton, Toronto, reported the following case of inversion of uterus (*Dom. Med. Monthly*):

Mrs. K., aged 20 years, primipara, confined Sept. 28, 1906. She is small and light. Pelvis is normal in size and shape.

Labor began about 11 a.m., Sept. 27th, but pains were not very strong nor frequent till about 10 p.m.

I was notified at 1.30 a.m. (28th) at which time the membranes ruptured spontaneously. The child presented by the vertex and lay in a left occipito-anterior position. Labor was terminated about 4 a.m. (three and one-half hours after the rupture of the membranes) without forceps, chloroform being used to the obstetrical degree for the last hour.

On delivery, the membranes were found stretched over the head and face, and doubtless this condition had much to do with the production of the inversion. On following down the uterus during the delivery of the body I was struck by a peculiar flat-

ness of the posterior uterine wall, while the whole uterus seemed to lack tone.

About half an hour after birth the placenta was expelled, apparently in a normal manner, some pressure being made from above. As the placenta was expelled, the fundus was felt to pass from the grasp of the hand, and on examination the placenta was found to be adherent to a hard round mass which protruded from the vulva, and which proved to be the inverted fundus. The placenta was easily stripped off the fundus, and on grasping the uterus firmly there was no difficulty in controlling the hemorrhage.

The uterus was carried up into the vagina and its wall fed back through the cervix until the fundus suddenly sprang back into its proper position.

Good contraction at once took place and was maintained. Not more than six or eight ounces of blood was lost throughout the case, and there was no shock, although the patient was not under an anesthetic at the time of inversion, nor during replacement. The puerperium was uneventful.

Traction upon the cord is the most frequent cause of inversion of the uterus. In this case the traction upon the membranes by the advancing head was undoubtedly the starting point, the downward traction of the placenta itself, the subsequent uterine contractions and the pressure of the external hand uniting to complete the inversion.

I have thought this case worth reporting because of the extreme rarity of the complete inversion, being the rarest of serious obstetric accidents. "Winkel had not seen a single case in 20,000 labors, nor had Braun one in 250,000."

Retroflexion and Sciatica.

Offergeld (*Deutsche Med. Woch.*, Dec. 20, p. 2,064).

A woman, aged 43, had, during six months, been treated by an eminent nerve-specialist for sciatica without benefit. She had always been well until about three years before the writer saw her, when the first symptoms of sciatica appeared. They were preceded for a short time by a vaginal discharge.

She could bear weight on the right leg only for a few minutes. There were paræsthesiæ and occasionally attacks of violent stabbing or boring pain in the region of the hip, sacrum, and pelvis, and along the distribution of the sciatic and peroneal nerves from the great trochanter down the thigh and popliteal space. The pain was aggravated by standing. The right sciatic nerve was tender along its whole course and especially

at the usual tender points. The skin supplied by it was paræsthetic and hyperæsthetic. The right Achilles reflex could not be elicited; otherwise the reflexes were normal. There was slight muscular wasting but no R. D. Walking was slow and only possible with the aid of a stick, the body being bent to the left to relieve the right leg. The condition became worse and the patient was practically bedridden. An open operation for stretching the nerve was proposed. The writer then saw her.

The uterus was retroflexed and somewhat bound down on the right side by perimetric adhesions. There was universal tenderness on the right of the uterus and especially in the region of the great sciatic notch. Pressure on the sciatic nerve by the retroflexed uterus was diagnosed. Laparotomy was performed and some band-like adhesions between the uterus, intestines, and parietal peritoneum were separated. The round ligaments were shortened by retroperitoneal looping. A catheter and a pessary were introduced and left in position for a few days. Physostigmine was given to prevent the formation of fresh adhesions.

Pain and paræsthesia disappeared within a few days, and after three weeks walking was again possible with the aid of a stick. Six months after the operation the right sciatic nerve was normal; the Achilles reflex had returned and the muscular atrophy had disappeared. The woman could perform her household duties. One year after her discharge from hospital and fifteen years after marriage she gave birth to her first child. Her medical attendant reported that the uterus was anteflexed and there was no trace of sciatica.

The case shows that a simple retro-flexion, in which the uterus is not rigidly fixed, may produce serious consequences. The standpoint of those who deny all importance to uterine displacements is as mistaken as is that which attributes to them every imaginable disorder. It is also of interest in that the woman conceived after fifteen years' sterility when the displacement was rectified.—*Med. Review.*

Diagnosis of Early Pregnancy with Reference to a Particular Sign.

Louis J. Ladinski (*Medical Record*), claims that it is always possible to make a positive diagnosis of pregnancy as early as the fifth or sixth week when intrauterine. The diagnosis is made by a single sign. This is the appearance of a spot of a peculiar softness and elasticity just above the junction of the body and cervix in the anterior wall of the uterus, in the fifth or sixth week. When the uterus is retroverted or retroflexed

it appears in the posterior wall, and at the sixth or seventh week of pregnancy. In incomplete abortion or subinvolution this area of softening appears, but is much more doughy and less elastic. With a hard fibroid in the upper portion of the uterus there is a similar spot, but the softness is only relative. With a soft myoma in the front of the uterus the feeling is exactly that of pregnancy. The sign must be sought by bimanual palpation. Absence of this sign absolutely excludes uterine pregnancy. The sign aids in making a positive diagnosis of extrauterine pregnancy by excluding uterine pregnancy. It is in all probability due to extreme vascularity of the uterine wall at the point where it is felt.—*Buffalo Med. Journal.*

Decidual Hydrorrhea and Metrorrhagia of Pregnancy not Followed by Abortion.

Sometimes, in a woman pregnant several months, there escapes from the vagina a watery or blood-stained liquid, accompanied by slight pains in the loins. Abortion, however, does not occur. This watery fluid, Budin (*Jour. des Prat.*, July 14, 1906), shows, is derived from the decidua, and collects between this membrane and the uterine walls; he calls the condition "decidual hydrorrhea." In a case of suicidal death of a young woman who had a short time before death exhibited this kind of watery discharge from the vagina, Duclos found two small cystic cavities between the uterine wall and the chorion, and a third pocket lower down, which had ruptured and had given rise to the watery discharge. Such a watery discharge occurring in a pregnant woman has to be differentiated from urine and from amniotic fluid. From the former it is distinguished by the absence of a urinary smell. From amniotic fluid it differs in causing the linen, which it soils, to be sticky, and it is rarely so great in amount and rarely continues for so long a time as an amniotic discharge; further, amniotic fluid contains hair and sebaceous matters.—*Epitome B. M. J.*

PROGRESS OF PSYCHIATRY.

IN CHARGE OF DR. J. G. FITZGERALD,
Clinical Director and Pathologist, Toronto Asylum.

Psychiatry is making such rapid strides in attracting attention of late in Ontario, that it was felt that the readers of the PRACTITIONER should be kept in touch with modern advances

in this branch of medical science, and this is the *raison d'etre* of the appearance of this department.

The average man in general practice seldom has time or opportunity to devote any great amount of effort to the consideration of this most important subject, and the perusal of text-books, so many of which are of a sort that can be comprehended only (and then, sometimes, only partially) by a special student of the subject, is as a rule unsatisfactory; and only when a man is confronted with the problem of what to do when one of his patients develops a psychosis is he brought face to face with the fact that he has hardly received a square deal in the matter of what he is expected to know in regard to mental disease, and the treatment of a given case.

Just a word here, as to the exact procedure in the event of a physician having a patient suffering from some form of mental alienation. He applies to the Superintendent of the Asylum nearest him for a form of history, which he must fill out, and return to the Superintendent, when the application is at once considered, and if the case is urgent or a suitable one to be benefited by hospital treatment it is admitted. The care of the patient before his admission is often a source of considerable worry, and just a word in conclusion in regard to this. In case of excitement, the use of the hot wet packs cannot be too strongly advocated, and their beneficial effect will surprise and delight, not only the physician, but the patient's friends.

It will be the endeavor of the writer to present concisely and briefly, items of interest appearing in the literature devoted specially to the subject.

Editorials.

THE UNIVERSITY BOARD OF GOVERNORS.

There appears to be a rather strong feeling in some quarters that the meetings of the Board of Governors of the University of Toronto should be open to the public. In reference to this matter we are heartily in accord with the *News*, from which we quote the following: "The movement to have reporters admitted to meetings of the University Board of Governors should not succeed. Practically the University Board is a department of Government. For all its acts the Government is responsible to the last degree. At any time it may dismiss the Board and reverse its policy. In this responsibility is the safety and protection of the public. But it would be as reasonable to have reporters in the Audit Department or in the Department of Forests and Mines as at the meetings of the University Board. In the presence of reporters free speech on many subjects would be difficult and many delicate questions could not be handled satisfactorily. There are places where the press is a nuisance. One of these would be at the table of the Board of Governors."

THE EVIDENCE OF MEDICAL EXPERTS.

Dr. Allan McLane Hamilton, a noted alienist of New York, has recently published an article on "Medical Experts." In referring to the Thaw trial he contended that there was reasonable ground for difference of opinion as to the degree of insanity that makes a man incapable of knowing the quality and nature of a certain act. He also expressed the opinion that experts might easily agree that a man is pathologically insane, but differ in opinion as to his legal insanity.

The Toronto *Mail and Empire* in commenting on this article expresses the opinion that while Dr. Hamilton's statement may be correct, it does not explain the growing distrust of expert evidence on the part of the general public. It adds that there is a suspicion that specialists are almost sure to be lob-sided,

and are frequently if not generally ready "to take an oath or two for the sake of a theory." This seems like an extreme statement, and yet we must recognize the fact that in a large proportion of cases both judge and jury pay little or no attention to the testimony of medical experts.

Dr. Hamilton blames the contending lawyers for much of the contempt that is expressed for experts, and objects to the "ridiculous idiotic hypothetical questions," to which alienists are bound to answer yes or no. The writer in the *Mail*, however, asks us to go back a step and inquire: who prompts the lawyer for the defence as to his hypothetical question? He answers this question by saying that the expert for the defence does this, while on the other hand the expert for the prosecution frames the question for the prosecution. The writer goes on to say that the medical experts are really assistant lawyers, paid like lawyers, and earn their money by fighting strongly for conviction or acquittal as the case may be.

In our last issue a member of our Editorial Staff advised the appointment of a number of alienists to be the sole examiner as to sanity or otherwise of all men of the Thaw type. Dr. Hamilton holds a similar opinion, and expresses the belief that a permanent lunacy commission would solve the problem in such cases.

NOTIFICATION OF BIRTHS.

It is proposed to simplify and render more speedy the registration of births in England. As the law stands at present six weeks may elapse before registration. Lord Robert Cecil has just introduced a Bill into the House of Commons to provide that births must be notified to the local medical officer of health within forty-eight hours. It is further provided that this notification may be given on a postcard, and that the duty of such notification rests first on the father of the child, and secondly on any one who has been in attendance on the mother. Another important requirement of the Bill is that the notification shall extend to all children still-born as well as to those born alive.

Lord Cecil is supported by several well-known and highly-influential members of the House, and in his speech introducing the Bill, under the ten-minutes rule, made an eloquent and convincing statement of the greatness of the evil of infant mortality, and the efforts being made by national societies and private individuals to mitigate it.

WORK AND ITS LIMITATIONS.

The importance of "Work" is fairly well appreciated by all classes of physicians. However, it unfortunately happens that hard work sometimes kills. In this strenuous age we should consider both work and its limitations. From certain editorial comments on this subject in *American Medicine* for April, we learn that accidents due to fatigue are receiving much attention in Europe. Sometime ago the managers of the Bank of England discovered that mathematical errors of the clerks were at a minimum in the early morning hours, but increased as fatigue occurred. The money losses from such errors were very serious in the late afternoon; and, consequently, a rule was made in the interests of economy forbidding clerks to work after three o'clock. Investigations on similar lines in France showed the same results.

What rules shall we lay down, or what advice shall we give to medical students regarding their routine college work? After spending seven or eight hours in the lecture-rooms, laboratories and hospitals, how many more hours shall they work before going to bed? Of course, much depends upon individual capacity; but we may venture the general opinion that on an average each student will learn more in three hours in the evening than he can in six. It is really concentrated work that tells best in the long run.

The writer in *American Medicine* tells us reduction in the hours of labor has been man's policy for ages. Our Trade-Unions as a rule favor an 8-hour working day, and we are inclined to agree with them. The majority of employers appear to be unwilling to accept such a view. We believe, how-

ever, that the 8-hour working day for most occupations and trades will be generally accepted before long. The prospects for such a working day for the doctors, however, are not at present very bright.

A PETITION.

Three thousand signatures is a fair number to be appended to any petition, and furthermore, when these signatures are all the names of duly qualified medical men (with the very trifling exception of a few laymen officially connected with the London Royal Free Hospital (School of Medicine for Women), it becomes evident that the aforesaid petition is worthy of the attention of all, and will undoubtedly receive the careful consideration of the Council of the Royal College of Surgeons of England, to whom it is addressed. The prayer of the petition is that women may be admitted to the examinations conducted by the College for its diplomas in surgery. Fifty years ago the burden of proof that women should be regularly admitted to the medical profession may be said to have rested on the claimants of such admission and their friends, but now, on the contrary, it may rather be said to rest on those who would close any such avenue of admission. It would appear to be somewhat difficult to justify the closing of such admission to women in England, merely because they are women, especially when we remember that the Conjoint College in Scotland, and the Conjoint College in Ireland have granted admission to them.

A broad and wise consideration of the whole matter, and a thoughtful and impartial decision are to be expected from the authorities of the College.

TORONTO GENERAL HOSPITAL.

Department of Immunization and Medical Research.

Types of cases which will most likely benefit from treatment by inoculation:

Class 1.—Containing those in which the bacterial focus is strictly localized and the disease is of a chronic nature.

1. *Due to the Tubercule Bacillus.*—So-called surgical tuberculosis; such as tuberculous dermatitis, certain cases of lupus, tuberculous glands, tuberculous epididymitis and orchitis, tuberculous cystitis, tuberculous peritonitis, tuberculous disease of bones and joints. Also tuberculous iritis, Bazin's disease, sinuses and fistulæ. Early pulmonary tuberculosis.

2. *Due to Staphylococcus.*—Boils, acne, sycosis, felons, carbuncles, and the majority of "septic" surgical processes, such as infected wounds, certain cases of chronic osteomyelitis, etc.

3. *Due to Streptococcus.*—Certain cases of chronic osteomyelitis, infected wounds, chronic urethritis, certain cases of cystitis, certain chronic septic processes, puerperal sepsis.

4. *Due to Pneumococcus.*—Certain cases of cystitis, chronic empyemata, antrum disease, chronic septic processes.

5. *Due to Gonococcus.*—Acute gonorrhœa, chronic gonorrhœa, gonorrhœal rheumatism.

6. *Due to Bacillus Coli.*—Infected wounds, chronic cystitis, persistently discharging gall bladder and abdominal wounds, sinuses and fistulæ, pyelitis, etc.

7. *Due to True and Pseudo-Diphtheria Bacillus.*—Certain cases of meningitis, infected abdominal wounds, etc.

8. *Due to Typhoid Bacillus.*—Prophylactic, and chronic periostitis, etc.

9. *Due to Micrococcus Neoformans.*—Certain cases of malignant disease.

Class II.—Containing those in which the bacterial focus is not strictly localized.

1.—Pulmonary tuberculosis, certain of the more serious septic processes such as follow upon infected fingers, etc.

Class III.—Containing the blood infections, septicæmias and pyæmias; such as puerperal septic processes, ulcerative endocarditis and pyemias of any variety.

The resources of the department are also available for the *diagnosis* of medical and surgical cases, especially where tuberculosis of any sort is suspected.

In so far as time will permit, observations will be undertaken upon the coagulability of the blood, upon the contents of the blood in the salts of calcium, upon the alkalinity of the blood, upon renal sufficiency by the method of hæmolysis and upon cardiac affections by means of Mackenzie's polygraph.

The Presidency of the University.

As announced in our last issue Dr. Falconer, of Halifax, was unanimously elected by the Board of Governors as President of the University. In the same issue it was stated that a large number of the graduates were in favor of the appointment of Professor Hutton to this position.

We desire now to give special prominence to what may be considered an authoritative statement from the Board of Governors. The members of the board appreciated very highly the services of Dr. Hutton as acting President after President London's resignation. At the time of his appointment it was made clear by him that he was not a candidate for the position of President. It is also stated that he accepted the position with considerable reluctance after much persuasion.

A Nurses' Club House in Toronto.

The nurses in Toronto are becoming more numerous each year, the additions being from outside towns, England, and the United States, as well as from local hospitals. The city hospitals have their alumnæ associations, where the graduates may meet for mutual improvement and social intercourse, but the outside nurses have no such place. Besides this, it is felt that a common meeting-ground is necessary, so that the good-fellowship which should exist among members of the profession may be furthered. This good-will has been growing rapidly during the past few years, and it is felt that the time is ripe for a Nurses' Club House in Toronto. To make it a success the nurses should all take an interest in the project and give their united support, both by their loyal good-will and financially.

One suggestion is that a joint-stock company of nurses be formed to provide the capital necessary for buying a suitable

building. The income from the nurses' rooms, committee rooms, registry office and dining-room should pay the running expenses, repairs and dividends on the stock. There are several desirable places which may be got at a reasonable price. The question is, "Will the nurses co-operate in this venture, which will be under their own management?"

The Club House would centralize all nursing interests and be the headquarters for the nurses of Ontario. Nurses from outside when coming to Toronto may find a home there, or if there is not sufficient room, convenient rooms could be obtained near by, and they could make the Club House their headquarters. Such a home for the nursing profession is greatly needed in Toronto. No one who reads the present number of *The Canadian Nurse* but will feel it. How many old friends we missed on Easter Saturday and Easter Monday, and how many new friends we lost the chance to meet because there was no "fireside" of our own where *all* would be welcome and where all could "foregather." Success to the Club House!—*The Canadian Nurse.*

THE LATE DR. DRUMMOND.

Marie, you take dat stuff away—
I don' wan' eat to-night—
An' bring dose clo'es I buy las' year,
An' dat shirt dat's clean an' white;
For I go to Mon-real—
Only 'bout sixty mile;
You won' min' to be alone,
I come back in little while.

I don' care it was ten t'ousan' mile!
My heart he tell me right,
He say: "Go to Mon-real,
Go, Pierre, to-night."
I won' spen' de money for train,
I walk alone all way.
Ain' I tol' you, my frien' he dead?
He die yesterday.

Dat man, he was kind to me
An' to you an' baby, too,
When you were seek and so poor
You don' know what to do—
An' every day for mor' a month
He come an' make you well,
An' he give money, but you don' know—
Pierre he never tell.

An' he say to me: "Cheer up, Pierre,
De spring he soon be here,
Dis snow an' ice dey go away—
So don' you never fear.
Your wife an' chil' dey bot' get well
In 'bout a week or so."
An' you bot' get well, jus' as he say;
I wonder how he know?

An' when I say in few months' time:
"What have I to pay?"
Why, he look at me an' laugh an' laugh,
An' den I turn away—
An' lak a fool I bow my head
An' not a word could speak,
I almos' cry jus' lak a chil'
An' feel so very weak.

But I shake his hand an' den he say
Somet'ing kind to me;
Mon Dieu! de tears come to my eyes
So bad I could not see;
An' I jus' say: "Merci, my frien',
For what you done to me."

'Bout an hour ago dey tol' me
How he died in Mon-real,
How de peoples say dey lose deir frien'—
Peoples big an' small;
How dey honor him, not because he rich,
But for being kind,
An' dey all say in Canada
He de bes' man you can find.

Marie, if some one ask for me
You tol' him what I said,
An' say I go to Mon-real—
My frien' is dead. —*N. Y. Sun.*

Personals.

Dr. Wm. Caven and Mr. Lloyd Wood, of Toronto, visited Atlantic City, April 23rd, and remained about two weeks.

Dr. J. F. W. Ross, of Toronto, went to the Wilds of Muskoka, north of Algonquin Park, May 11th, and returned May 23rd.

Drs. John Caven and J. Fotheringham also visited Baltimore and some other cities in the United States, and returned to Toronto, May 4th.

Dr. Graham Chambers and Dr. P. W. H. McKeown returned to Toronto, May 9th, after a visit of two weeks to the Johns Hopkins University.

Dr. Murray Macfarlane, of Toronto, sailed from New York for Europe, May 17th. He expects to spend about three months visiting the hospitals in England and on the continent.

Dr. Arthur A. Small (Tor. '95), formerly of Toronto, but for the last three years a practitioner in Chicago, has been appointed one of four medical experts for the city of Chicago.

Dr. Herbert Seviking proposes a change in the name of the British Medical Association, and suggests that "Imperial" be added, or better still he would call it "The Imperial Medical Association of Great Britain and the Dominions Beyond the Seas," which somewhat lengthy title might be curtailed for ordinary purposes to "The Imperial Medical Association."

Dr. James Russell resigned his position as medical superintendent of the Asylum for Insane in January. At the request of the Government he continued in office until May 18th. He was recognized in all parts of North America as an able alienist, in all parts of the Province of Ontario as an excellent executive officer, and throughout Canada has a host of friends who wish him well.

Dr. Gilbert Tweedie resigned his position as Superintendent of the Toronto Isolation Hospital, April 24th, on account of ill health. Dr. W. B. Brans took charge of the institution for three weeks. Dr. Robert E. Wodehouse (Tor. '06), of Blenheim, was appointed by Dr. Sheard as Superintendent in place of Dr. Tweedie. Dr. Wodehouse, however, is at present one of the Resident Physicians in the Sick Children's Hospital, and cannot leave that institution until the first of September. In the meantime Dr. F. B. Mowbray, who has been acting as one of the house surgeons at Erie County Hospital, Buffalo, is in charge of the institution. He went on duty May 15th and will remain until September.

Mr. Thomas Henry Wakley, Senior Editor of the *Lancet* (English), and a son of Mr. Thomas Wakley, who founded the *Lancet,* died April 15th, aged 86. Notwithstanding his great age we understand that he took an active interest in the management of the *Journal* up to a short time before his death.

Donald J. Armour, B.A. (Tor. '91), M.B. (Tor.. '94), of London, England, has been awarded the Jacksonian prize for 1906 by the Royal College of Surgeons of England for his paper on "The Diagnosis and Treatment of those Diseases and Morbid Growths of the Vertebral Column, Spinal Cord and Canal, which are Amenable to Surgical Operations."

Dr. Walter Murray English, of London, has been appointed medical superintendent of the Hamilton Asylum in the place of Dr. Russell, resigned. Dr. English received his medical education in the Toronto School of Medicine, and the degree of M.D. from Victoria University, in 1886. After graduating he commenced practice in London, where he remained until the time of his appointment to the new position. He was Professor of Sanitary Science and Toxicology in the Western University. He was for many years closely identified with the London General Hospital, and has served as a member of the City Council and on the board of public school trustees. Dr. English will be much missed by his many friends in London, where he is generally recognized as a surgeon with ability and a public spirited citizen with high ideals.

Dr. Andrew B. Eadie, of Toronto, was attacked and seriously injured by Nicholas Noble, on April 9th. As Dr. Eadie's life was in danger for some time, Noble was detained in jail for some weeks, bail being refused. The Doctor was unable to appear in court until May 17th. In giving his evidence he said that he was passing the corner of Niagara and Queen Streets on his bicycle when Noble, who keeps a fruit store in that neighborhood, ran out from the sidewalk and stopped him, and struck him over the head with what looked like a whipstock. The police magistrate, Mr. Denison, committed Noble for trial on the charge of aggravated assault. It appears that Noble was angry because of the death of his son from appendicitis. Dr. Eadie attended the boy and brought in Dr. Jas. F. W. Ross in consultation. The patient was removed to a hospital, and appendicectomy was done. It seems a peculiar mischance that one of the most careful, conscientious and inoffensive physicians in Toronto should be attacked in this murderous manner. We are glad to learn from Dr. McMahon that Dr. Eadie is steadily improving and is able do some professional work.

Correspondence.

HOSPITAL VENTILATION.

To the Editor Canadian Practitioner and Review:

Dear Sir:—In your current issue an editorial headed, "The New Hospital," closes with the following paragraph:—

"In respect of ventilation the artificial means are not generally approved. Ventilation from the windows has been found most satisfactory, as long as care is taken to protect the patients from drafts."

I have no desire to unnecessarily obtrude my opinions and advice unasked, but in an important public question of this kind it would seem a neglect of duty to allow this bald statement to obtain publicity and acceptance, (especially in a scientific journal), without discussion and revision. In the light of our present knowledge and experience it is hard to understand how this statement can be made.

As it stands it bars out all "artificial" contrivances for drawing off the foul, or used-up air, as well as for admitting the air to be used. All that is mentioned is window ventilation.

We have not to go far to contrast "ventilation from the windows" with more "artificial means." We have the comparison in the old and new portions of St. Michael's Hospital in this city; and the members of the medical and nursing staffs know well the disagreeableness of the former on a cold winter day, and the superiority of the latter.

For the best results in the supplying of air four self-evident cardinal principles must be recognized:—

1. It should be pure.
2. It should be so evenly distributed as to reach the inmates, and all of them.
3. It should be of a suitable temperature and degree of humidity when it comes in contact with their bodies.
4. Hot air is lighter than cold: as air becomes heated it will obey a physical law and will rise.

In our winter climate, these axioms bar out the possibilities of efficient window ventilation, pure and simple, for rooms where air space is limited. For example, in "St. John's, 1." of the hospital above referred to, with the thermometer between freezing point and zero, the air to be in its greatest purity must go at that temperature straight to the patient; or if "care is taken to protect the patient from drafts" by having it deflected

and broken so as to become warmed up in the room or ward, it must mix with the impure air already in the room, and become more or less impure; and then unless there is some definite *vis a fronte* drawing off the foul air, and giving a definite direction to its movement, fresh and foul air will be indefinitely and hopelessly mingled, the fresh passing in on the windward or colder side, falling cold upon the beds on that side, and passing over to those on the other side, giving them a little benefit (?) or not according as it has not happened or has happened to have become sufficiently warmed to pass entirely over the level of these beds in its progress towards the windows. If you admit cold air at the windows instead of introducing it over some heating body you are on the horns of a dilemma, either to let it remain and mix with impure air until it becomes warmed, in which case it is no longer pure; or else to bring it cold to the patients, some of whom may be stripped for clinical observation or treatment.

Compare all this with the "artificial means" in Wards III. and VIII. Here there is a grating in the floor under each bed, and on a cold winter's day a smoke test will show the foul air being drawn down from the floor line through these outlets. Over the beds are registers which, (when kept open), allow currents of moderately warmed air to enter, and diffuse over the beds in its downward passage to the outlets; in very severe weather it is found necessary to add to the heat of the room by radiators, but there is always a definite drawing down to the floor and away of the air which has been rendered impure by the exhalations of the inmates.

I am not upholding the system here described as the most efficient possible. The amounts of fresh air brought in could be increased by more powerful extractive force, and larger inlet space. The artificial means used are simply shafts extending up from the ground floor to the roof, and with which the flues from below the floor are connected; the extractive action is simply that the air rises through flues surrounded by indoor warmth. At any time this extractive force can be increased by fans or jets if found necessary. The warm air above the beds is conveyed from out-doors in flues containing heated coils, and it does not rise and escape without being used, because it is drawn down by the extractive force and passes the breathing line on its way. The atmosphere of these rooms is always pleasant, and even the floor line is warm to the feet.

If there is any necessity for pointing to other contrasts I would instance the changed atmosphere of the rooms of the

Dufferin Public School and of the lecture rooms of the Toronto Normal School, where artificial ventilation has been recently installed by the Fred. Armstrong Co., Toronto; and the contrast between the lecture rooms of the old Medical Building of the University, when feeble artificial ventilation was employed, and those of the new Medical Building. Please do not refer to one or two occasions in summer, as at the first meeting there of the Ontario Medical Association, when either fan or deflector was not in evidence.

I have visited hospitals in other places where artificial means were in use for removing foul air and bringing in pure warmed air. Some of these must have been visited by the gentlemen who made the tour of investigation.

With regard to this matter it must also be borne in mind that what will be suitable in climates far to the south of us may be unsuitable in ours; even when elaborate devices for breaking up and deflecting incoming currents of cold air are in use.

WM. OLDRIGHT.

ASYLUM REFORM.

TO THE EDITOR CANADIAN PRACTITIONER AND REVIEW:

SIR:—To say anything new on the subject of the appointment of superintendents in Ontario asylums seems almost impossible, but the question is of such vital importance that it merits more than mere passing notice.

In the first place it is to be remembered that vacant superintendencies in the asylum service are at the present time (much to Ontario's discredit)—"spoils of war," placed in the hands of the patronage committees to be dispensed to the politician who is most assiduous in his application. All other appointments in the service are mainly to junior positions. Young physicians entering as assistant medical officers gradually work up to the position of assistant superintendents, where, thanks to the present system, they usually remain.

Doesn't it seem incredible that the Province of Ontario (*because the people pay for the maintenance of the indigent insane*), when a man is required to assume the chief position in a large institution where hundreds of the unfortunate insane are receiving care and treatment, should appoint some one who has had no special training whatever in a branch which is one of the most complex in the realm of medical science. Instead, the appointee is, as a rule, a man to whom

a political debt must be paid. That such a state of affairs need only be brought home to each voter in Ontario to bring about a cure, is obvious. Do you want men who are qualified by years of special training and study to carry on the great work of inquiring into the causes of insanity, and, if possible, adopting measures as preventive agents, or do you want men who are not fitted because of lack of training, and whose only qualification is the badge of political service?

New York State, for long years recognized the world over as being in the front rank in the treatment of her insane from the humanitarian and scientific standpoint, has understood this, and has adopted the rule as laid down, that no man, however brilliant, or whatever his political value may be, can attain the position of superintendent until he has been in the service five years at least as assistant physician.

Ontario pays enormous sums each year to maintain her hospitals for the insane, but *the people of Ontario are not getting what they are paying for* while asylum appointments are political gifts.

Suitable men for promotion may always be found, but so long as promotion in the asylum service is as rigidly tabooed as political freedom in Russia just so long will satisfactory work not be done, so long will asylums not be conducted on the most modern lines, and a disease as far-reaching in its evil effects as the white plague will go on unchecked.

The establishment of a non-political Lunacy Commission, and the institution of civil service examinations, would not only lead to inestimably better work being done, but would be actually a matter of saving money for the people of Ontario. If the people insist on having what has proven to be the best and cheapest, if they insist on asylum reform, they can have it. They pay for the best, but at the present time the patronage committee says they cannot have it. Who is going to finally win out, the small group of politicians, who have absolutely no interest in the situation other than personal gain; or the great body of taxpayers who make and unmake Governments, and who can demand that they be given what they have paid for?

The question awaits the answer of the voter, because he is the only one the politician heeds. He must speak and speak plainly—demand asylum reform. Do you want to have the most that possibly can be done for your own relative, or friend, who is afflicted? If so, you have only to speak, and the Gov-

ernment (that is yourself), can apply the remedy. The Lunacy Commission and Civil Service Rule.—PHYSICIAN.

[This letter was written by a physician who has intimate knowledge of the asylum service of all parts of Canada. We believe he voices the opinions of a large and solid section of the profession in this province. We have a shrewd suspicion that the Premier and Provincial Secretary of Ontario would gladly see the whole asylum service placed on a better basis. If the profession will take the trouble to press their views, which are so absolutely in the interests of the public, it may be found in the near future that even the all-powerful patronage committees may lose some of their strength. The personal element handicaps many, especially when an able, worthy, and popular physician receives an important appointment. A large proportion would prefer not to criticize too severely the appointments of the past, but rather to work for a better system in the future.—EDITOR.]

Book Reviews.

REPORTS OF THE TRUSTEES AND SUPERINTENDENTS OF THE BUTLER HOSPITAL, PROVIDENCE, R.I., Jan., 1907.

This little book of forty-nine pages devoted to the annual report of "Butler" reflects great credit on Dr. Alder Blumer, the Superintendent, who has done so much to bring this hospital to the front rank of psychiatric institutions in America.

The book is artistically, and quite profusely illustrated, and gives the reader an excellent conception of the delightful situation of the hospital; the nature of the scientific work being done, and the means employed in the treatment, for *e.g.*, occupation, etc. The progress of the training school for nurses is briefly dwelt upon; and it is a feature at Butler that all nurses are given a special course of two months in district nursing.

Lists of former trustees, superintendents, assistant physicians, and of the graduates of the training school, with certain statistical information, concludes a really admirable annual report.

MODERN MEDICINE, its theory and practice, in original contributions by American and foreign authors. Edited by Wm. Osler, M.D., Regius Professor of Medicine in Oxford University; formerly Professor of Medicine in Johns Hopkins University, Baltimore: in the University of Pennsylvania, Philadelphia, and in McGill University, Montreal. Assisted by Thos. McCrae, M.D., Associate Professor of Medicine and Clinical Therapeutics in Johns Hopkins University, Baltimore. Volume I. Evolution of internal medicine; predisposition and immunity; diseases caused by physical, chemical and organic agents, by vegetable parasites, by protozoa, and by animal parasites; nutrition; constitutional diseases. Illustrated. Philadelphia and New York: Lea Bros. & Co. 1907.

This new system of medicine, of which we have expected so much, has at last reached its first volume, to be followed by others at intervals of three months. It is twenty years since American publishers attempted anything of this nature, and such great progress has been made in the science and art of medicine that there is ample scope for another system, which, in all probability, will be sold in larger numbers than any other work of a similar kind.

The list of contributors to this volume includes men from nearly every important medical centre of the English-speaking world, the Americans, as one would expect, being in the majority. Of the various articles it would be difficult to say anything except in praise, since each is written by a master hand. The introduction on the evolution of medicine is in

Prof. Osler's inimitable style, clear, concise and entertaining, forming a most fitting preface to a work which coming medical generations will acknowledge the best of the age to which it belonged. Two other Canadians, besides Dr. Osler and his associate-editor, Dr. Thos. McCrea, also contribute articles. Dr. Adami, of Montreal, writes the first chapter on Inheritance and Disease, while Dr. Thos. Futcher has articles on Diabetes Mellitus, Diabetes Insipidus, and Gout.

Every up-to-date physician is in duty bound to have these books upon his shelves to read them.

LETTERS ON PSYCHO-THERAPEUTICS. By H. OPPENHEIM, University of Berlin. Translated by Lewis Bruce. Review of Neurology and Psychiatry.

This series of letters on the remedial agent of which we have heard so much lately, namely: Psychotherapy, coming as they do from such an eminent authority as Prof. Oppenheim, make an important contribution to the subject.

The author has chosen brief letters to patients suffering from various nervous conditions, as the medium by which he illustrates a few points in Psychotherapy. In these letters he recounts briefly the nature of the patient's complaint, and then judiciously makes certain suggestion, which if heeded by the patient are likely to have a beneficial effect. When one remembers that within the past two or three years Suggestion or Psychotherapy (which although they are not synonymous are closely allied) has been featured as one of the most powerful remedies in the hands of the practitioner in the treatment of certain of the functional neuroses, it will be plainly evident how essential it is for the general medical man to have some insight into this most recently proposed ethical agent. H. K. Lewis & Co., are the publishers, the translation is in a handy pocket-size, and is well worth perusal.

"Practical Fever Nursing" will soon be issued from the presses of the W. B. Saunders Co., of Philadelphia. Dr. Register is well known as the editor of the *Charlotte Medical Journal*, and as Professor of the Practice of Medicine in the North Carolina Medical College at Charlotte, N.C. He is a widely traveled, well read, and a polished, dignified gentleman. He has always enjoyed a large and lucrative practice in his home city as well as in nearby towns and in adjoining states. From his varied and ripe experience in the profession the doctor is in a position to write authoritatively on the subject of "Fever Nursing."