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POTT'S DISEASE—ITS EARLY DIAGNOSIS AND MECHANICAL TREATMENT.\*

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THE disease of the vertebræ, first well described by Percival Pott, in 1779, is now generally recognized as tubercular.<sup>1</sup> The frequency of its occurrence, the constancy of resulting deformity, and the long duration of the disease make it one of great interest and importance to every practitioner of medicine. In children it occurs more frequently than any other form of bone disease.

As in all tubercular affections, the history is an important aid in making an early diagnosis—the personal of more consequence than the family history. Doubtless the vulnerability of the descendant of tubercular ances-

\* Read at the regular meeting of the Toronto Medical Society, Nov. 16th, 1893.

tors is greater than that of one of a healthy parentage. Having a closer bearing, however, upon the vulnerability of the individual is the condition of the system which results from preceding disease or conditions which impair the general health and lower the vitality. Many experiments have been performed upon animals showing that after injection of the virus of tuberculosis the liability to development of the disease is increased by injury, such as fracture of bones, wounds of joints, and by unsanitary conditions of living.<sup>2</sup>

Clinically, it will be found that in a large proportion of cases the appearance of the disease has been preceded by some illness, such as measles, scarlet fever, whooping cough, chronic diarrhea. These lower the resisting power of the individual, and the virus, which otherwise could have been successfully thrown off or held in check, finds a suitable soil for development.

Always of prime importance that an early diagnosis should be made, it is especially so in tubercular affections of the joints.

#### SYMPTOMS.

(1) The carriage of the individual in moving about is likely to be one of the first indications of this affection. At a very early date the spine is immobilized by nature in the affected area, and the individual moves about with a cautious gait, and without the natural ease and grace which comes from unconstrained bending of the body.

(2) Pain in the distribution of the nerves which find exit in the immediate vicinity of the diseased vertebræ is a very constant and early symptom. If the lower dorsal or upper lumbar be affected, pain is frequently complained of in the gluteal and upper femoral regions, and the suspicion is often expressed that there is disease of the hip joint. When the tubercular focus is higher up in the spine, it is not uncommon to find the child complaining of "belly-ache"; and treatment for stomach and other visceral derangements is by no means uncommon.

(3) When the back is fully exposed, and the patient allowed to stand on a level surface, without shoes, then voluntary flexion of the spine to the greatest extent permissible, without causing pain, will show what part is affected. Reflex muscular spasm will prevent or lessen movement between inflamed vertebra, just as it lessens or prevents motion at a diseased hip or knee joint.

(4) Deformity<sup>3</sup> may reveal the presence of disease and its location. The angular deformity from which the affection often takes its name is not here referred to. When the tubercular process has advanced so far that a kyphosis is present, then aids to the diagnosis are not required, and it is useless to make further examination. Just as deformity is produced

by muscular spasm, as seen in the slight flexion and lordosis of incipient hip disease, long before there is loss of tissue or manifestation of the disease at the surface of the joint, so there are curvatures which manifest themselves before there is any destruction of the bodies of the vertebræ. If the focus of the disease is situated laterally in the vertebral body, then we shall have a lateral curvature; if situated centrally we may have an antero-posterior curve, which differs much from the characteristic so-called angular curvature so long known as a manifestation of this affection.

(5) The disposition to rest in the recumbent position, or to lean against some support which will relieve the spinal column of the necessity of bearing its superincumbent weight, is not without diagnostic import.

(6) *Chronicity.* If it be found that all the symptoms of illness have come on suddenly, then doubt may well be entertained of the affection being spinal caries. In all the tubercular affections of joints, careful inquiry will show that there is a rather indefinite period of illness marked by vague symptoms, and that there have been periods of exacerbation, the patient seeming to have almost recovered, only to be worse again in a few weeks.

Attention may properly be called to some special symptoms of the different regions.

In the lumbar region there is great liability to consider the case one of hip disease. One side is favored; there is frequently apparent shortening of one leg and flexion of the thigh. Before any kyphosis appears a tumor may present itself in the iliac region, and reveal the fact that we have a psoas abscess. A complete examination, however, can scarcely fail to show that the symptoms most characteristic of hip disease are absent.

To differentiate between lumbar caries and pyonephrosis, or perinephritis, may be very difficult. An examination of the urine may probably give light on the subject. A perinephritis in children is generally acute, and the symptoms more urgent.

In dorsal caries, especially the upper, the respiration is modified, the outer thoracic walls being more or less immobilized, and the work being done by the diaphragm. Lower down the abdominal symptoms referred to above are very characteristic, and also the desire to rest lying prone.

Disease in the cervical area is very likely to cause a torticollis, which differs from the true wryneck in being associated with greater resistance to passive motion, and by pain when any attempt is made to move the head. The hands may be kept applied to the chin to support the head and keep it steady. When the first and second cervical are affected there is almost always occipital neuralgia. Disease in the region of the fourth or fifth vertebra will probably manifest itself by irregular action of the

diaphragm through involvement of the roots of the phrenic nerve.

When all the foregoing has received full consideration, I am aware that cases may and do still present themselves in which it is the part of wisdom to suspend judgment. In the enumeration of symptoms no reference is here made to such as will not aid in an *early* diagnosis, and only to such as experience has taught the writer to emphasize. In the desire to make an early diagnosis there are certain affections which must be differentiated :

(1) *Rheumatism.* Occasionally persons suffering from rheumatism present symptoms very similar to those detailed above, and if it be a child who is affected there may be great difficulty in making a diagnosis.

CASE 1. Alice G., 3 years old. The family attendant informed me that she had been ill for about two weeks, and that he entertained doubt as to diagnosis. She had no antecedent illness ; had elevation of temperature to about 102° F. Her walk was typical of Pott's disease ; there was no deformity ; could not learn that there was pain in the area of distribution of the spinal nerves. Was very cross, and resisted examination. Diagnosis deferred, and anti-rheumatic remedies given. Early improvement and complete recovery.

(2) *The sensitive or hyperesthetic spine* may simulate organic disease very closely, and time for observation may be required to make a diagnosis certain, but there is generally extreme tenderness in one or more parts over the spinous processes. This is not an indication of caries. There is generally normal mobility, and nervous symptoms are prominent.

CASE 2. February 23, '92, K.P., 24 years, sent to me to have a spinal support applied for Pott's disease. In November, 1890, had much pain in back, neck, and head. Had a convulsion, and several since that time. The spinal pain and tenderness continued. In July, 1891, family attendant discovered a "knuckle," and applied a plaster jacket, from which she derived great comfort. Seen by a doctor in Toronto, who would not exclude Pott's disease, nor assert confidently that it was present. I did not find the knuckle, nor any other positive symptom of caries. I applied a rawhide corset at the request of her physician, which she wore with comfort, her health improving, and convulsions being less frequent. Passed from observation a few months ago ; still wearing the corset, but not presenting any further evidence of disease of the bones. These cases often derive great comfort from a spinal support ; but, if used at all, it should not be long continued, and other means of treatment should be employed.<sup>3</sup>

CASE 3. May, 1891, E.A., 19 years. Good family history. In 1888 had been thrown from a buggy, falling on her head. Had complained much of pain in neck, arms, and back of head, most marked in

the distribution of the cervical and brachial nerves. At examination with her father, who is a physician, we thought there was an undue projection at the seventh cervical and first dorsal. Pain increased on pressure and movement of the part, and felt most radiating to the shoulder, over the clavicle, and up behind the ear, and sometimes down the left arm. Diagnosis, caries of first dorsal or seventh cervical. Applied a leather jacket with "croquet hoop" support for the head. This was worn for a short time; but the general health being good, the local symptoms less marked, and the apparatus found irksome, its use was soon discontinued. The symptoms have disappeared, and health is good.

#### TREATMENT.

Probably not more than five per cent. of all cases of Pott's disease are presented for treatment previous to the angular projection of the vertebral spines. Of 196 cases treated in the Hospital for Ruptured and Crippled, New York, only 14 were without angular deformity. If an early diagnosis were made, efficient treatment would prevent much of the deformity which so commonly results.

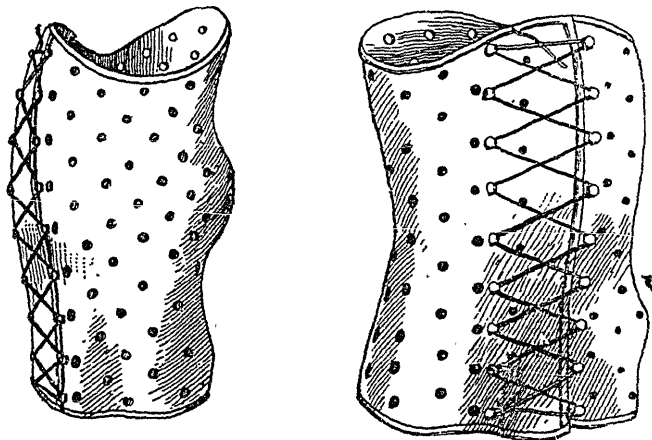
If the disease in its early stage be acute, and always in children under three or four years of age, it is better to treat the case by recumbency. If kept constantly lying down in bed, the superincumbent weight of the body above the seat of disease is removed and deformity partly prevented.

In the opinion of many surgeons, however, it is not wise to continue this method of treatment for any lengthened period; and if the patient is to be allowed to move about, a support of some kind is to be provided, not only to prevent needless deformity, but to fix the spinal column at the seat of disease so as to secure rest for the affected parts.

No support or appliance for the spine has been recommended which is more efficient than the plaster jacket when properly applied. It is the only one which may be made to grasp the pelvis so as to immobilize it in its relation to the spinal column. The exact manner of its application will depend upon the locality of the disease. In cervical and high dorsal caries, no support can be efficient which does not provide for the support of the head. In lumbar disease there is little likelihood of deforming angular curvature, this being opposed by the natural anterior curve of the spine in that region.

If a lateral section be made through the entire column, separating the bodies of the vertebræ from the parts behind composed of compact bone, then we have an anterior and a posterior section. It is the purpose of all mechanical treatment to transmit the weight to the pelvis through the latter, thus avoiding pressure upon the bodies and affording protection to the area affected by disease.

The writer wishes, however, to call attention to rawhide as a substitute for plaster of Paris, not that any new principle is here advocated, but because that the objections to the use of gypsum cannot be urged against rawhide, while all the claims that may be made in favor of plaster of Paris hold good in the case of the rawhide corset.



In preparing for the employment of this corset, the patient is extended in the ordinary manner by means of straps under chin and occiput, the patient pulling upon the rope which passes over the pulley. Straps passing under the shoulders to aid the extension are unnecessary and injurious. They raise the shoulders out of their natural place, and the extension is not so direct and powerful in producing good form as direct extension upon the spine. The patient is not to be raised from the floor, but is to pull himself up sufficiently to make as much extension as can be borne without discomfort. It is noticeable almost uniformly that the patient experiences increased comfort through moderate extension.

Then the body is rubbed over with vaseline, and plaster bangages applied directly to the body, no shirt or dinner pad intervening. If good plaster has been used, it may be cut off at once, as it will have set sufficiently to keep the shape when removed from the body. The cut edges are now brought together, and secured by an ordinary roller bandage passing around the jacket. Plaster of Paris, mixed to the consistency of mortar, is now poured in till the jacket is full, taking the precaution to put some hollow body through the centre, so that it may be removed when the plaster has set, thus greatly hastening the drying of the plaster model. If the bandages have been thoroughly rubbed by the hand while being applied, the model will faithfully represent the body with its most minute depressions and elevations.

When the model is well dried, rawhide previously soaked in water till it is soft is stretched over very tight, and fastened in place with nails. From six to fourteen days are required for the drying of the rawhide, during which process it tends to contract; but, being retained by the nails, it sinks into all the depressions, and leaves the elevations well marked. Before applying the rawhide, the prominences, *e.g.*, the projection of the vertebral spines and of the anterior portion of the iliac crests on the plaster model, are to be made more prominent by adding strips of felt or leather, so that when the dry corset is applied to the body it may not press upon these parts.

The corset may or may not be lined with chamois skin. Running vertically, about one inch apart, on either side of the prominence made by the projecting vertebral spines, are two strips of felt secured to the rawhide, and making constant pressure forward over the vertebræ, while their spines are allowed to pass between these strips, and so avoid the erosion that so frequently results in the use of plaster.

Lacing hooks are applied along the front of the jacket, so that it may be removed as an ordinary corset. Numerous holes may be punched through both rawhide and lining, affording thorough ventilation. For the support of the spine above the sixth dorsal, a head or chin support must be employed, or the case treated by recumbency.

The following claims for the corset may be fairly made:

(1) When brought down well below the iliac crests at the sides, to the pubes in front and to the cleft of the nates behind, it grasps the pelvis more securely, and retains it in its relation to the lumbar vertebræ more perfectly than any other spinal appliance, except its prototype, the spinal jacket, thus preventing lordosis.

(2) If brought well up to the supra-sternal notch in front, it gives effectual support as high up as the sixth dorsal vertebra.

(3) It has the advantage over the plaster jacket that the bony prominences may be more effectually guarded, that the corset may be removed for bathing purposes, and that a corset will last for one or several years, thus avoiding the worry and trouble of the frequent application necessary in the use of plaster of Paris.

(4) It is better than leather because it is much more elastic and retains its shape perfectly, besides being very much lighter.

(5) It is not so warm as poroplastic felt, and retains its shape better.

(6) It is not expensive.

Any instructions regarding mechanical supports would be very incomplete without a reference to the Taylor spinal brace which is here shown, and is so generally known to the profession. It is the only brace for which credit has been claimed on the ground that it has brought about



recession of the deformity. Exerting its pressure by unyielding bars only along the posterior aspect of the spine, and not grasping firmly the pelvis, it fails in giving the completeness of fixation obtained by a cylindrical jacket. Various modifications of the Taylor brace have been made which have increased its efficiency, notably by Shaffer and by Whitman, New York.<sup>4</sup>

When the disease is above the sixth dorsal vertebra, support for the head must be obtained, both to assist in carrying its weight and to maintain unvarying extension. For this means the ordinary jnymast is the least satisfactory means which I have seen employed. A much more efficient support is the "croquet hoop," first used here, so far as I know, by Dr. Primrose, and described in the *British Medical Journal* by Dr. Elliott in 1884. This gives a most satisfactory support, but it interferes with the proper adjustment of the clothing about the neck, and attracts the attention of observers. Whitman's additions to the Taylor brace above referred to are applicable to this corset. They consist in a chin support giving and maintaining extension of the head applied as Shaffer does the same, and of pads applied in front of the tips of the shoulders, preventing the arms from being moved forward, which movement increases the weight pressing downward through the vertebral bodies.

The consideration of operative measures is not touched upon because there is not time to do so, and because that subject is to be brought before the society by Dr. Peters.

I may summarize the teaching here advocated, as follows :

(1) Due attention to the following symptoms and signs will generally enable the surgeon to make a diagnosis before the stage of deformity has come :

- (a) The *clinical history*—noting the *chronicity* of the case.
- (b) The peculiar *carriage* and *gait* in walking.
- (c) Pain in the *distribution of the spinal nerves*.
- (d) *Muscular spasm* in the region affected.
- (e) Lateral or antero-posterior *curvature*, other than that so called *angular curvature* which marks the later stage of the disease.

(f) The *disposition to recumbency*.

(2) Mechanical treatment, permitting the patient to be out of bed, is preferred in most cases to plans which necessitate recumbency and a life indoors:

(3) The principles embodied in the use of the plaster jacket most fully meet the indications. When necessary to employ a head support, the croquet hoop is one of the best.

(4) Rawhide is a better material to employ than plaster of Paris.

(5) The object sought in immobilizing the spine is primarily to allay

irritation and to lessen physiological activity in the part affected ; and, secondarily, to prevent unnecessary deformity.

(1) Tuberculosis of Bones and Joints ; Senn, pp. 4 and 354.

(2) Ibid, pp. 15-19.

(3) Lovett in *Boston Medical and Surgical Journal*, July 13, 1893.

(4) Whitman, Transactions of American Orthopedic Association, vol. v., p. 40.

(5) *Zeitschrift für Orthopädische Chirurgie*, 1 Band, 1 Heft, p. 1.

(6) *Annals of Surgery*, vol. x., p. 48, Bartow. *American Journal of the Medical Sciences*, March, 1893, p. 331.

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## THE NATURE OF INFLAMMATION.\*

BY DR. A. F. MCKENZIE.

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THE difficulty of getting a satisfactory definition of inflammation is shown by the fact that in some of our best and most recent works on pathology no attempt at a concise definition is made.

In order to learn what ideas were originally associated with the use of the word, we naturally turn to its derivation, and we find that the clinical symptoms of fiery heat and redness and burning pain gave origin to the word ; and at the present day these symptoms, together with swelling and perversion or loss of function, variously modified according to the nature and position of the affected part, and the extent and intensity of the diseased process, are the grounds on which we make a diagnosis of inflammation.

In order to teach the histological processes of inflammation, nearly all text-books first describe the normal circulation as seen in the web of a frog's foot when examined under the microscope.

The results of the application of irritants are then described somewhat as follows :

In some cases, according to the irritant used, a temporary contraction of the arteries occurs. In most cases, however, the first effect noticed is an immediate progressive dilatation of the arteries, followed by dilatation of the veins. The blood current is at first increased in rapidity, but soon becomes slower on account of the tendency of the blood corpuscles to adhere to one another and to the walls of the small vessels. Emigration of the white blood corpuscles into the surrounding tissues occurs, accompanied, perhaps, by the passage of a few red ones. At the same time the plasma of the blood transudes through the walls of the vessels and infiltrates the tissues as serum ; while by the union of substances contained

\* Read before Toronto Medical Society.

in the plasma and the white blood cells fibrin is formed. In this simple manner are elaborated the various inflammatory exudations. The serum is part of the plasma of the blood. The fibrin is produced by the union of the fibrinogen in solution in the blood plasma with substances contained in the white blood corpuscles. The pus cells are emigrated white blood cells. Besides the changes thus described as occurring in the blood vessels and circulation, in some cases the surrounding connective tissue cells take an active part, and by their multiplication are produced new cells, which, at first of small and indifferent type, later assume the characteristics of connective or granulation tissue. If they die, they help to form pus cells. In what has up to the present time been termed chronic interstitial inflammation of the internal organs, constituting such diseases as hepatitis and nephritis, this formation of connective tissue is the principal part of the inflammatory process, there being little or no formation of serum, fibrin, or pus. In a very interesting address delivered before the last meeting of the British Medical Association, Professor Roy said: "I must remind you that the much-abused term inflammation cannot be so freely used as has hitherto been the case, and we must now exclude many pathological processes which, in the past, have been considered and called inflammations. For instance, many of the so-called chronic interstitial inflammations are, we now know, due to local anemia from narrowing of the blood vessels or other cause, whereby the blood supply is rendered insufficient to maintain the relatively active metabolism of certain tissue elements, which are replaced by fibrous tissue, whose nutritive changes are less active. The same is the case with most, if not all, of the parenchymatous inflammations, which are mostly due to malnutrition or chemical destruction of the functionally active tissue elements, and which, in many cases, leads to their being replaced by fibrous tissue; in other words, to interstitial inflammation so-called, following so-called parenchymatous inflammation. We must also exclude from the term those processes of repair where the increased activity simulates the true inflammatory process. Leaving these and other cases aside, we find that at the present day the inflammatory process is narrowed down to the results of a localized invasion of the pathogenic microbes."

This position, which Professor Roy takes, is practically that taken by Senn in his "Principles of Surgery," where he says that true inflammation is always caused by the presence of one or more kinds of pathogenic microbes. The position of these teachers, shortly stated, appears to be, "No microbes—no inflammation." If this dictum is adopted by the authors of our text-books, it will readily be seen that our present terminology of disease will have to be, to a great extent, altered. Concerning interstitial hepatitis or cirrhosis of the liver, the idea has hitherto prevailed

that it was one of the firmly established facts of medicine that the most frequent cause of this condition is the irritative effect on the substance of the liver of the strong solution of alcohol absorbed from the stomach. But as this irritant is a chemical agent, and not a pathogenic microbe, Professor Roy says we should not call the results it produces inflammation.

Eczema is now classified as a simple non-contagious inflammation of the skin, and, as has been shown by Hebra, all the different varieties of it can be produced, or, at least, imitated, by the application to the skin of solutions of croton oil of various strengths. Workers in paint factories, where arsenical preparations are handled, are particularly liable to severe inflammatory affections of the skin. If a person burns a finger by touching the stove, almost immediately the ordinary signs of inflammation commence.

It would be easy to multiply instances where the inflammatory process, at least as we at present understand it, is evidently and directly due to chemical, mechanical, or thermic irritation. It may be urged that even in these cases it is impossible to exclude the action of microbes, but most observers will conclude that, although they may be present, their action is practically *nil*. This is the reasonable conclusion, unless it can be shown that these irritants do not cause inflammation when applied with aseptic precautions. I am not aware of any experiments conducted for the settlement of this point, so far as the application of irritants to the surface of the skin is concerned; but irritant substances such as croton oil in aseptic glass tubes have been inserted underneath the skin with rigid aseptic precautions, and after the healing of the surface wound without suppuration the tubes have been broken. In such cases inflammation resulting in the formation of pus has occurred, but it is stated by some experimenters that this pus is sterile, *i.e.*, it is non-inoculable, and does not contain streptococci, and it is also said to be poisonous to streptococci.

If these experiments are confirmed, they would appear to indicate a very important distinction between inflammation caused by pathogenic microbes and that caused by ordinary irritants. But cannot this distinction be sufficiently indicated without making such a radical change in nomenclature as has been proposed by some? Professor Roy, in the previously mentioned lecture, says: "I will only remind you that although by chemical and other means a process apparently identical with what may be called the normal inflammatory reaction can be produced, yet that we must look upon these as cases where the inflammatory process has been called for by other than its legitimate cause; the cause, that is to say, to meet which it has been evolved in the animal kingdom, namely, a local invasion of pathogenic microbes."

To those of us who do not feel the necessity of making all our ideas

concerning all kinds of subjects conform to the so-called law of evolution, this statement of Professor Roy will not perhaps have as much importance attached to it as he thinks it deserves.

With the abundant clinical evidence furnished us by all classes of surgeons, and the evidence furnished by the army of bacteriologists throughout the world, it seems to be pretty conclusively proved that pathogenic microbes do set up and are the essential cause of the inflammatory process in many cases, and, viewed from the standpoint of the operating surgeon, probably they are the most important cause; still it would be rather a sweeping conclusion to draw that they are the only cause. Moreover, when we enquire how these microbes produce inflammation, we are told that at least part of their action is due to the irritating effect on the tissues of the chemical substances—ptomaines—to which they give origin; and if the term inflammation is properly applied to the process caused by these chemical substances, why not apply the same term to what is apparently the same process, set up by chemical substances derived from other sources?

The important distinction for us to notice between inflammation produced by pathogenic microbes and inflammation produced by other causes is that in the former case the cause is living and capable of multiplication, and in this way the process is apt to extend; while in the latter case the inflammatory process is limited by the amount, duration, or intensity of action of the irritant. It is claimed, moreover, that the products of inflammation caused by microbes will by inoculation reproduce a similar inflammation, while this is not the case as regards the products of inflammation produced by other causes. In many cases, no doubt, the two classes of causes act together.

With the introduction of the microscope, and the study of normal and pathological histology, the close resemblance of the changes which occur in the normal healing of a wound to those which occur in the inflammatory process gave rise to the belief that the old idea of inflammation being a complication of wounds to be feared and dreaded was at least partially incorrect, and that a certain amount of inflammation was necessary for the healing of wounds. Thus the edition of Ashurst's Surgery written thirteen years ago, says: "It is consonant with the modern views of the inflammatory process to look upon that process as being necessary for the repair of wounds under all circumstances." During the last few years, however, since a knowledge has been gained of the influence which pathogenic microbes play in preventing the primary healing of wounds, there has been a tendency to make a clear distinction between the regenerative processes which are necessary for the repair of wounds and inflammation. The position now held by the leading authorities is

that held by John Hunter one hundred years ago, when he said that "primary healing takes place without inflammation." Senn says, "All inflamed wounds, *i.e.*, those infected with pathogenic micro-organisms, suppurate, and the reparative process is delayed until the inflammation has subsided." Repair of a wound by granulation, even if the process should continue for a lengthened period on account of there being much tissue destroyed—so long as there is no suppuration—should be classed as healing by primary intention. This idea that inflammation is not present in the healing of wounds which are kept aseptic appears to be an important one. Besides the absence of suppuration and microbes in the healing of aseptic wounds, there is also an absence of clinical symptoms of inflammation. Thus Volkmann says that "a primary healing wound, several days after the operation, ought to look exactly as if it had just been stitched; no swelling and redness, no heat, and no pain."

As has been stated in a previous part of this paper, the evidence, both clinical and bacteriological, in support of the germ theory of the inflammatory complications of wounds seems to be so overwhelming that it is now practically accepted by nearly all operating surgeons. In an address delivered before the last meeting of the British Medical Association, Dr. Hume said: "The antiseptic system admits of latitude in its application. It is open to every one to elaborate his own technique. But with whatever variety of method, there ought now to be no grades in the standard of work sought to be accomplished. No one now is ever heard to speak of laudable pus. No pus is praiseworthy; but, on the contrary, if it appear in a wound for which the surgeon is responsible, and in the making of which he had the control of all the conditions, it is always a thing to be ashamed of."

Probably the most aggressive opponent of the germ theory of inflammation is Lawson Tait. He says that he has, during his professional life, learned and unlearned some four or five theories of inflammation, and predicts that the present prevalent theory—a phase of lunacy; cocco-phobia, he calls it—will soon go the way of the other theories.

The principal arguments used against the germ theory of inflammation and the antiseptic precautions used in operating by those who hold the theory are:

(1) The germs being present everywhere, even in the healthy body—for Senn says that it is reasonable to assume that pathogenic microbes may and do exist in the healthy body without necessarily giving rise to disease—it is practically impossible to exclude them.

(2) If care is taken to prevent the accumulation of discharges, blood clots, etc.—in other words, to prevent the accumulation of pabulum on which they may flourish—the germs themselves are not liable to do harm.

(3) If the germ theory were true, the mortality of small operations, as compared with large operations, ought to be comparatively greater than it is; for, during the performance of a small operation in which antiseptic precautions are not adopted, one would suppose that as many, if not more, germs would be introduced into the wound as in larger operations done with antiseptic precautions. In connection with this point, Tait accuses the antiseptic surgeons of using a "heads I win, tails you lose" argument, claiming every success as a proof of the correctness of the germ theory, and attributing every failure to the neglect of some minute precaution of antiseptic detail, which minute precaution was probably neglected as frequently in the successful as in the unsuccessful cases.

(4) The rapid healing of wounds in the lower animals shows that, whatever the influence of germs may be, the vital condition of the patient and the condition of his surroundings, hygienically considered, are of more importance.

(5) Clinical results in some departments of surgery—for instance, abdominal—show that those who adopt elaborate antiseptic precautions do not obtain better results than those who content themselves with adopting ordinary cleanliness. Moreover, the use of antiseptics involves a great waste of time and patience on the part of the surgeon. They are apt to prove more poisonous to the patient than the microbes; and, too much faith being attached to the efficacy of these, operations are apt to be undertaken which should not be attempted; and, the mind being occupied with the minutiae of the use of antiseptics, the broader and more important principles of surgery, operative and otherwise, are apt to be overlooked.

The answers given to these arguments are that, although it may be impossible to exclude from the wound every microbe, whether from without or within the body, investigations show that the healthy body has the power to dispose, in some way, of a certain number of these, and that the quantity introduced at any one time into the wound has an important influence in determining whether or not they will produce any appreciably bad effect. Although the accumulation of blood clots in a wound is, as a rule, something to be avoided, yet, in cases where strict aseptic and antiseptic precautions are adopted, the clot does not decompose, as would be the case were antiseptics not used. The clinical results obtained by the same men in the treatment of such general surgical cases as compound fractures show that the success of treatment on antiseptic principles is greater than without.

Although we should naturally suppose that the larger the wound the more apt infection would be to occur, yet we know by experience that very minute wounds are frequently the starting point of such specific inflammations as erysipelas. In fact, some lay it down as a rule that all true cases

of erysipelas commence by infection through some wound of skin or mucous membrane, although it is sometimes impossible to see this wound.

It is a mistake to suppose that the adoption of antiseptic principles means the slighting of such principles as careful arrest of hemorrhage, drainage where necessary, and procedures to secure proper rest and position; while, with regard to the general condition of the patient, it is always the surgeon's duty to remember that he is not a mere sawbones, and that the only object of a surgical operation should be the promotion of the welfare of the individual on whom it is performed.

Are we to consider the inflammatory process to be always an evil? Regarding this, Dr. Hume says: "Not alone in primary adhesion, but in all forms of healing, it is seen that inflammation is never a help, and can only be a hindrance, and that if it occurs repair must take place in spite of it, or be delayed until it passes away." Professor Roy classes the process among the defensive mechanisms of the body. Senn says "that inflammation is *per se* no disease, but an effort on the part of the organism and the tissue affected to eliminate or render harmless the primary cause. So that considering only the healing of the wound it is always an evil, but when a sufficient cause gives rise to it the process itself must be regarded as a conservative one, so far as the individual is concerned; as, if it did not occur, possibly in many cases the worse complication of septicemia might.

In concluding this paper, I shall not try to give a definition of inflammation; but shall, for the purpose of eliciting discussion, state a few propositions regarding it:

(1) It is a local process attended by structural, nutritional, and functional changes in the part affected.

(2) While these changes are locally injurious, and in the case of wounds hinder or prevent the normal healing process, yet they are probably an effort at defence on the part of the organism and the tissues affected.

(3) While the most frequent essential cause of inflammation is probably a local invasion of pathogenic microbes, yet other causes may produce apparently the same effect.

(4) Considering the desirability of not making any unnecessary changes in our terminology of disease, it does not appear that our knowledge is at present accurate enough to warrant us in limiting the term inflammation to the results of a local invasion of pathogenic microbes.

(5) The antiseptic precautions which it is now considered necessary to take, and which, at least, are not apt to do any harm, are within the means and capabilities of ordinary practitioners, and he who is anxious to do the best he can for his patients will not likely neglect them.



## MITRAL STENOSIS.\*

BY G. A. PETERS, F.R.C.S., ENG.,

TORONTO.

MRS. M., æt. 43. Had never been strong. Was anemic in girlhood, and never menstruated until a month before her marriage, when twenty-one years of age. She was not rheumatic, nor is there a history of rheumatism in the family. From the history she gave of her illness, it is probable that the valvular disease which ultimately caused her death commenced not less than twelve years ago. It did not, however, give her very much trouble until about two years ago, when she began to suffer from shortness of breath, with some precordial pain and distress. These symptoms increased in severity, and became very prominent for some weeks before her death, which occurred on the 9th December, 1892. During the past summer she suffered two or three very severe attacks of vomiting, lasting twenty-four or thirty-six hours. She was absent from home at the time, so that I did not see her in them; but I conjecture they were due to passive congestion of the stomach.

During the last month of her life the liver became very much enlarged, extending down nearly to the umbilicus; notably diminishing in size, however, when she was given complete rest in bed. The liver did not pulsate, but an impulse was clearly transmitted to it from the enlarged and distended right ventricle. There was slight edema of the feet and legs during the last three weeks. A very hard, dry cough was a distressing symptom for some weeks preceding death. Sometimes a very slight amount of mucus streaked with blood would be expectorated.

Her menstrual losses were generally excessive, though this might, in part, be accounted for by the presence of a small submucous fibroid.

During life there was not much to be learned by inspection of the chest. There was no undue bulging of the sternum or costal cartilages. Palpation over the base elicited a thrill of rather a soft character.

Percussion showed moderate enlargement towards the right side.

A presystolic murmur could be heard very distinctly over the base and apex, but could not be traced to the left of the apex.

For about ten days before death the temperature went up to about 100° to 101° Fah., and the skin became yellowish in color, though not distinctly jaundiced.

*Post mortem.* There was a small amount of fluid in the pericardium. Pleuritic adhesions were present on the right side over the superior and middle lobes, evidently the remains of a pneumonia, during which she was attended by Dr. Graham. The right auricle and ventricle were

greatly distended with blood; and there was some blood in the left auricle, but the left ventricle was quite empty.

On opening the heart, it is found that the right heart and the aortic valves are healthy, but that there is almost complete obstruction of the left auriculo-ventricular opening. The mitral valve is very much thickened and contracted, leaving an opening not more than one-eighth inch in diameter. On the edge of this opening, moreover, is a nodular-looking mass of apparently recent granulations. In addition to the normal opening, there are two smaller openings in the valve, evidently due to rupture from the auricle into the ventricle. The cordæ tendinæ are involved in the contraction to such an extent that the muscoli papillares are drawn up to the margin of the valve.

The right side of the heart is dilated and hypertrophied, and the left auricle is perhaps twice its normal thickness, but not dilated to any considerable extent.

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## RUPTURE OF HEART.\*

BY DR. J. L. G. MCCARTHY,  
BARRIE.

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THE patient, S.C., æt. 68, farmer, florid complexion, somewhat stout build, and not looking more than his years, died suddenly in Dr. —'s office while consulting the doctor, and before any examination was made, or even a history of his symptoms given.

*Previous history.* About sixteen years ago, I was consulted by this man for a troublesome pain between his shoulders. I took no notes of the case, but from the prescription given it was evidently then diagnosed as one in which the heart was involved—probably a valvular lesion.

The following year I attended him for erysipelas in the face. Since then he has not had occasion to consult a physician, except on two occasions for granular lids, although throughout this time the pain between the shoulders has persisted more or less.

During this period he has worked steadily at farm work, up till about a fortnight previous to his death; when, during hay harvest, striving to work alongside and do as much as younger men, he overworked himself, and had to give up, complaining that he felt unwell, his chief trouble being the pain between his shoulders and at his breast.

\* Presented to the Pathological Society of Toronto.

The day of his death he came to town to attend the funeral of a grandchild, whose death fretted him, and also to consult a physician. He was driven to the doctor's office, and had to mount a rather steep stairway. He had hardly sat down on a chair, and the doctor had spoken but a few words to him, when a slight muscular tremor passed over him. He slipped from the chair; his breath came and went once or twice; the face flushed and paled, and flushed again, and he was dead.

Efforts were made to revive him by artificial respiration, which, under the circumstances, probably hurried the end. The first impression was that the death was cerebral, but the sudden and complete collapse pointed more probably to the heart.

A *post mortem* was obtained by means of a coroner's inquest.

The examination showed a somewhat congested brain, the congestion being general, and apparently recent. In other respects this organ was healthy.

Upon opening the thorax, the pericardial sac was found adherent in front to the sternum and the third, fourth, and fifth cartilages; so much so that the dissector, in raising the ribs, cut into the pericardial sac, revealing an enlarged sac filled with clot and bloody serum.

The cause of this was soon found to be a ragged rupture an inch and a half long on the left border of the heart, about one inch below the auriculo-ventricular groove.

The lungs were congested, and had more than the usual amount of pleural adhesion, but were otherwise healthy.

The abdominal organs showed no signs of disease. The stomach had digested a fairly hearty dinner eaten about three hours before. The liver, spleen, kidneys, and bladder were healthy. There had been no dropsy. The heart was not much, if any, over the average size.

There was no apparent disease of the right side, except that the walls of the ventricle were somewhat thinned; but on the left the auricle is enlarged in capacity, and the ventricle has its walls greatly hypertrophied. The mitral valve gives no evidence of alteration or disease; but the valves of the aorta are hardened, thickened, calcareous, and inelastic. This calcareous condition extends up into the aorta, lying superficially on or partially embedded in its inner coat, on the right side of the vessel about an inch in width, until it reaches the arch; it then surrounds the orifices of the innominate and carotid arteries, and extends about an inch beyond. It is more of the nature of a deposit upon the inner coat than of an infiltration or degeneration of tissue.

The rupture, viewed from the interior of the ventricle, consists of two openings upon the left side of the cavity obscured by the columnæ carneæ, and placed about one inch below the auriculo-ventricular orifice.

The one opening will scarcely admit the tip of the little finger ; the second much smaller, about the size of a buckshot. These openings, passing through more than an inch thickness of wall, expand into an uneven, ragged tear, which, on the outside, shows more than an inch and a half in length.

The reasons why I have offered to present this case, and why I deem it worthy of some little consideration of a society of the character of the Toronto Pathological Society, are that it seems to be a very well-marked instance of its kind. It is a striking example of how life is prolonged, and the hard labor and work of a farmer done with comparative comfort and little complaint, with a vital organ so disabled as the one described ; of how nature compensates by a hypertrophied wall for the injury disease has inflicted by means of an imperfect valve.

It is also remarkable for the apparent small compensation required to overcome a valve so seriously disabled ; that is to say, that the compensatory changes do not appear to have extended to any other part or organ beyond the ventricular wall.

Again, it is peculiar in the nature of the rupture. Commencing with the small openings described, it expands into an enlarged ragged tear ; the explanation of which, I take it, is that the openings on the inner wall were the commencement of what would have been an aneurism of a dissecting nature, but they were hurried to their final rupture by overstrain. It is, I believe, remarkable for the rupture through so thick a wall of comparatively healthy tissue.

It is a case that leads one to doubt Dr. Boulland's statement that all diseases of the heart have an origin in the peculiar diathesis of the patient.

Finally, it is a warning to us not to be too hurried in expressing an opinion of the cause of sudden deaths. It is true that in this case we had come to the conclusion, prior to the *post mortem*, that this was a case covered by that convenient phrase, "Heart Failure." However, no one suspected, previous to the *post mortem*, that this would prove to be a ruptured heart.

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## TWO CASES OF LAPAROTOMY FOR UNUSUAL CONDITIONS.\*

BY T. K. HOLMES, M.D.,  
CHATHAM.

THE object of this paper is to present the history of two cases, one of which is of so rare occurrence as to be almost unique, and the other very interesting to me on account of its history and termination.

CASE I. On April 2nd, 1893, I was asked by Dr. Fraser, of Thames-

\*Read at the meeting of the Canadian Medical Association, September, 1893.

ville, to see Mrs. B., who gave the following history: She belonged to a healthy family, and is a robust-looking woman herself, of German parentage, and twenty-nine years old. She had been married about twelve years, had five living children and one miscarriage, and had always lived on a farm and worked hard. The miscarriage occurred in December, 1892, and she suffered from hemorrhage and septicemia before the dead fetus was discharged. After the miscarriage she had occasional chills and fever, with pain in the left iliac region, but her temperature had never been high, and had been normal most of the time until I saw her. Dr. Fraser had visited her several times during the winter, and had, about ten days previous to my visit, discovered a swelling in the left side of the pelvis. Bimanual palpation revealed a globular swelling as large as an orange about two inches to the left of the uterus, and, although it was quite tense, fluctuation was made out. It was slightly movable, very tender, and rendered walking difficult. Her pulse and temperature were normal, the uterus retroverted, and the cervix lacerated bilaterally. She was removed to the hospital in Chatham, and after the usual preparation the abdomen was opened in the median line and the tumor aspirated. All adhesions were then separated, the Fallopian tube tied close to the uterus, and the mass removed. It proved to be the ovary, and contained three ounces of pus. The peritoneal cavity was flushed with sterilized normal salt solution until all hemorrhage stopped, and the wound was closed with silkworm gut, and dressed with sterilized gauze. No drainage tube was used, and the dressing was not changed till the seventh day, when the sutures were removed and union was complete. It will be seen by examining the specimen which is here presented that the tube is not diseased, and this constitutes the interesting feature of the case. Dr. Joseph Price, of Philadelphia, says abscess of the ovary never occurs without disease of the tube; and Dr. Cullingworth, in his recent address before the British Medical Association, says: "Of primary ovaritis, either acute or chronic, which is supposed by some authorities to be a common affection, and a frequent cause of pelvic peritonitis, I have scarcely (apart from tuberculous disease) met with a single example."

CASE 2 is of interest because it is typical of a class of cases the treatment of which is not settled. On May 3rd, 1892, I saw, in consultation with Drs. Dewar and McKenzie, of Essex Centre, Mrs. W., who had been ill about ten days. The attack began with pain in the abdomen, rather more severe in the right iliac region, where the attending physicians thought there was some hardness, but tympanites developed so rapidly that this could not be determined with certainty. There were chills and fever, complete inactivity of the bowels, vomiting, and great prostration. When I saw her the abdomen was distended and tympanitic to an extreme degree, respiration was thor-

acid and difficult, the temperature was  $103^{\circ}$ ; and the pulse 130. No tumor could be made out by external palpation, but the tympanites was so great that it might easily have been unrecognized. Examination per vaginum and per rectum gave negative results. The case was so urgent that an exploratory incision was determined upon, and was made over McBurney's point. The intestines were much congested, soft adhesions existed among the viscera presented, but no disease of the appendix was present, nor was there diffused pus, as is seen in septic peritonitis. No obstruction existed in the alimentary canal, but peristalsis was completely abolished. Thinking the patient's grave condition due to the paresis, distension, and to consequent fecal poisoning, I closed the wound from above to within an inch of the lower angle, and into the opening thus left sutured a part of the distended gut. It was decided that in case the bowels should not move in a few hours, and if the alarming prostration should continue, the part of the exposed intestine should be opened. The pulse grew weaker during the afternoon, and at dark, or about ten hours after the operation, could not be felt at the wrist; the surface of the body became cold and clammy, sight and power of speech failed completely, and death seemed imminent. Dr. Dewar now incised the gut. Much gas escaped, but no fecal matter until two hours after, when a copious evacuation from the fistula took place, and this was repeated several times through the night. Stimulants which could not be retained before were given freely, and retained through the night, and in the morning her condition was slightly improved—the pulse could be felt, sight and speech had returned, and the swelling had largely subsided. From this time improvement was gradual, and soon all signs of immediate danger had passed. The fistula, however, remained open, and was a source of great annoyance and inconvenience. I made two unsuccessful attempts to close it, the first by freshening the edges and uniting them by a double row of sutures. The sutures were removed on the seventh day, and for a few days success seemed achieved, but a small opening appeared in the line of union, and this soon enlarged and became as bad as before. The second attempt, by a flap-splitting operation, failed apparently through the persistent vomiting, by which such tension was made as to defeat union. Resection of the bowel seemed the most likely means to succeed, but the patient became discouraged at the previous failures and went to Harper's Hospital in Detroit, where resection was performed by Dr. Walker, and the ends united by Murphy's button. She made a slow recovery, and, I believe, remains well. This woman would undoubtedly have died had the gut not been opened and the distension relieved, and there is abundant authority to show that many patients die from intestinal paralysis and distension. I feel sure the opening of the bowel in this case saved the patient's life, and I have detailed the history

of the case in the hope that the success attending it may induce others in suitable cases to adopt it. In the *American Journal of Obstetrics* for August of this year, Dr. Henrotin reports the successful treatment of such cases by opening and draining the bowel. He says the plan is especially applicable to cases of obstruction in which the bowel remains distended from paralysis after the obstruction is relieved. Mr. James Greig Smith, of Bristol, in a paper read before the Royal Medical and Chirurgical Society last year, speaks most favorably of relieving distension in this way, and he says that many patients after relief of obstruction, as in strangulated hernia, die from over-distension and paralysis. In the discussion of the paper Mr. Bryant, Mr. Marsh, Mr. Godlee, Mr. Thornton, and others, fully concurred in the views set forth in the paper.

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## Clinical Notes.

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### CHOLECYSTOTOMY—RECOVERY

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BY DR. J. W. F. ROSS,  
Toronto General Hospital.

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MRS. H., æt. 28; married seven years; two children. Father died with bronchitis and asthma at the age of fifty; and mother of bronchitis, at forty-five, probably phthisis. The patient, a little, healthy-looking woman, presented herself at my office on October 13th, 1893, stating that she had noticed a lump in her abdomen three days before. For about a year she had had a pricking sensation in her right side; this pricking sensation had lately developed into an ache. She felt at times as if she were suffering from indigestion. She noticed that the lump was more prominent when standing than when lying down. Her skin had a somewhat sallowish appearance, although there was no tinting of the sclerotic; the tinting might readily be accounted for by the fact that she was a brunette. She had never had any attacks of colic, and had never been jaundiced; she had never had any severe illness.

On examination I found a hard tumor, smooth in outline, about the size of a sausage, swinging like a pendulum between the crest of the ilium on the right side and the ensiform cartilage, described the arc of a circle of which the centre would be about three inches below the right nipple, and the radius about five inches. The tumor was so hard to the touch that I thought

it might be due to some fecal impaction; therefore, advised a dose of castor oil, copious enema, and a return to me the next day after the bowels had been thoroughly moved. The tumor was found, on the second visit, in the same place, with the same area of movement, and the same line of attachment. I then pronounced it a case of distended gall bladder from impaction of a stone in the cystic duct, and advised immediate operation.

On the 17th, or four days after the first interview with the patient, I opened the abdomen about an inch and a half from the edge of the ribs on the right side. The tumor was found to be a distended and very much thickened gall bladder; it felt very hard, and no distinct fluctuation could be made out, owing to the thickness of the walls. It was punctured with a trocar, incised, and three gallstones removed. On examination of the cystic duct a stone was found impacted. By enlarging the incision towards the ensiform cartilage, I was enabled to pass the index finger of the right hand under the liver and under the cystic duct, and the index finger of the left hand along its outer margin, and, with the two fingers thus placed outside the duct, slipped the stone down without difficulty into the gall bladder. It was about the size of a small marble; the stones, four in number, were all of this size and faceted. The gall bladder was long and narrow, and was fastened to the lower angle of the wound by a continuous suture of fine silk, and a drainage tube inserted. The wound was then closed with silkworm gut sutures; gall bladder was washed out; the fluid was black and tarry-looking, showing that the obstruction had been but recent, and that the bile pigment had not yet been removed. In two or three days bile discharged freely through the fistulous opening. The discharge of bile seemed greatest from 3 a.m. until breakfast time, and was considerably increased after the administration of calomel. Whether this was a coincidence or not cannot readily be determined. The bile continued to discharge in this way during the early hours of the morning, and at a period when the stomach had had the longest rest from the introduction of food, for some two or three weeks. Through the daytime, and even after the patient was able to be up, very little bile discharged, but there was always a copious flow in the early morning, so much so that the pads would be thoroughly saturated. I attributed this to the fact that the gall bladder was probably at this period of time performing its natural function as a reservoir, and that during the hours of sleep it was storing up the bile manufactured by the liver, but not required till the next ingestion of food. I am satisfied that bile is an excellent germicide or ante-putrefactive agent, as the wounds made in the performance of this operation show very little sign of septic irritation. The patient made an excellent recovery; the sinus is now healed, and she is doing her ordinary work.



## MALIGNANT DISEASE OF THE MESENTERY.

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By JAMES F. W. ROSS, M.D.,  
Toronto General Hospital.

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Mrs. W., æt. 55. Patient had had several children; been married for several years; had always enjoyed good health until the last few months. She began to fail in health, and discovered a lump in the left loin, two or three inches from the edge of the floating ribs. She then consulted her family physician, and he advised her to come to Toronto.

On examination, I found the abdomen occupied on the left side by an irregularly outlined mass, movable to a limited extent, with a semi-fluctuating feeling. The colon was found to be inside the growth; the loin on percussion was dull. The patient's appearance gave one the idea that she was suffering from some malignant disease. The temperature was found elevated and fluctuating between  $99^{\circ}$  and  $101^{\circ}$ ; the elevations were irregular, and did not correspond to the elevations produced by retained pus. The elevation was that so frequently seen in cases of malignant disease. As the patient also suffered from a large umbilical hernia, I determined to do the radical operation on the hernia, and at the same time have a peep at the tumor, although I did not think for a moment that it could possibly be removed. As the loin was dull, and the colon was found inside the growth running, in fact, over its inner edge, and as albumen and casts were found in the urine, I supposed that the disease was probably malignant disease of the left kidney. The irregularity of its outline was, however, somewhat puzzling. On opening the skin the hernial sac was encountered, and found to contain a large portion of the omentum; this was so firmly united to the sac wall and had burrowed so deeply between the fibrous trabeculæ that it was necessary to tear it off by main force. After having done so, the omentum was so much torn that it was necessary to remove the larger portion of it. The abdominal wall was then split up both above and below the aperture through which the hernia had escaped; this aperture was large enough to admit a man's thumb. The tumor was then explored, and was supposed to be connected with the left kidney. It was evidently malignant in its nature, and a very soft form of growth. On attempting to examine it further, a portion of the bowel that was adherent to it tore into the slender capsule, and on endeavoring to check the hemorrhage thus caused, with forceps, the tumor itself was found to be so friable that the forceps would not hold. I, therefore, determined to do nothing further, but to content myself by completing the operation for the radical cure of the hernia. Sponge pressure was employed

to check the bleeding while the stitches were being inserted into the abdominal wall. The wound was then carefully closed through its entire extent of nearly six inches. Iodoform gauze dressing was applied. Silkworm gut sutures were used; silk was used to tie off the omentum.

The patient made an excellent recovery from the operation; the wound healed kindly, and remained firm throughout its entire extent. The patient remained in the hospital until her death on the 16th of October. The operation was performed on the 31st of August; she thus lived for about seven weeks. In the interval the tumor grew rapidly.

*Post-mortem* examination report furnished me by my house surgeon, Dr. J. B. Peters:

External examination: nothing abnormal except the abdomen, which was increased in size. Palpation showed the presence of a tumor in the left lumbar region, extending forward into the umbilical region almost to the median line. The tumor felt hard, not nodular, and was not notched. On opening the abdominal cavity the remains of the omentum were found adherent along the line of incision in the umbilical region. No hernial opening was present at the umbilicus; the intestines were matted together on the left side by a large mass of apparently cancerous growth, which filled up the mesentery, and was adherent to the descending colon. The mesenteric glands were enlarged, and showed a secondary new growth, which was partially degenerated. Left kidney showed chronic interstitial nephritis; right kidney was somewhat fatty, and contained a small quantity of pus in the calyces. Spleen, normal; liver soft, friable, and very fatty; no new growth apparent; uterus, small. Right ovary slightly fixed by peritoneal adhesions; left ovary, normal; heart and lungs, normal.

The tumor was thus found to be mesenteric, and not renal. The presence of chronic nephritis would account for the albumen and casts found in the urine.

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# Progress of Medicine.

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## MEDICINE

IN CHARGE OF

W. P. CAVEN, M.B. Tor.

Lecturer in Clinical Medicine in the University of Toronto: Physician to  
Home for Incurables.

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### CREASOTE IN TUBERCULOSIS PULMONUM.

Dr. J. T. Whittaker has carefully reviewed the literature of this remedy. He concludes: (1) Creasote, when pure, is harmless. (2) It has no direct action upon the tubercle bacillus. (3) Tuberculosis pulmonum is chiefly a secondary infection by a streptococcus. (4) Creasote has no direct action upon this streptococcus; hence none whatever upon hectic fever. (5) It destroys lower organisms, especially those which produce fermentation, without affecting the process of digestion. (6) The beneficial action of creasote, which is undeniable in most cases, is chiefly, but not wholly, upon nutrition.—*Therapeutic Gazette*, 1893, No. 7, p. 438.

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### REFLEX HEMIANASARCA.

Rendu (*La Semaine Médicale*, 1893, No. 41, p. 321) has reported the case of a man who was seized with pain in the left side and posteriorly—at first dull, but subsequently sharp. He continued at his work, complaining, however, of headache, pain in the back, indigestion, anorexia, constipation, and a little cough; at night there was a little fever. At the end of three weeks the man presented a prominence at the base of the left half of the chest, with dullness on percussion; below the left clavicle the percussion note was tympanitic. Vocal fremitus was diminished; the heart was not displaced. At the angle of the scapula, blowing breathing, and bronchophony were to be heard, but no egophony and no pectoriloquy. In the area of dullness the breath sounds were feeble; râles could not be heard. Upon the right side some fine râles were heard at the base, with some impairment of the percussion resonance. In the precordium pleuro-pericardial friction sounds could be heard. The heart was normal, and the urine contained no albumin. By exclusion, a diagnosis of spleno-pneumonia of influenzal origin was made. Remittent fever, with vesperal exacerbations, persisted, notwithstanding the administration of quinine sulphate and the application of a blister to the chest. The pleural friction sounds

disappeared, but the pulmonary signs and the dyspnea persisted. The temperature remained slightly elevated. The bronchial breathing extended from the scapula to the base of the lung. Applications of wet cloths to the chest afforded relief, but interfered with perspiration. Finally, there suddenly developed, without appreciable cause, an edema of the chest wall at the level of which the blowing breathing was heard, extending thence to the lumbar region and to the left thigh. At the same time local fremitus disappeared, the vesicular murmur became enfeebled, and egophony was heard in a circumscribed area. Explanatory puncture disclosed the existence of a serous effusion of small volume. The edema extended, progressively involving the trunk, the scrotum, the buttocks, the thighs, and the legs, predominating, however, upon the left side. Heart and urine still presented no abnormality. Fever persisting, the dyspnea and the general condition becoming more distressing, and the fluid continuing to accumulate, a portion of the effusion was evacuated by puncture. Dry cups, scarification, digitalis, purgation, and a milk diet were followed by no improvement. The fever, however, ultimately subsided, leaving anorexia, emaciation, cachexia, and anasarca, while the signs of pleural effusion became more and more pronounced, until the vocal fremitus had entirely disappeared, and the breath sounds could no longer be heard. Râles were heard at the base of the lung, but the heart was not displaced. The removal of some six ounces of fluid was followed by considerable relief. Thereafter the morbid phenomena gradually receded, the flow of urine became progressively augmented, and the edema gradually disappeared. Sleep and appetite returned, and recovery ensued. The duration of the illness was about eleven weeks. The edema is explained upon the basis of a reflex paralysis of the vasomotor nerves of the affected regions secondary to the pulmonary condition.—*American Journal of the Medical Sciences.*

BROMOFORM IN WHOOPING COUGH.

Dr. F. W. Burton-Fanning says that Stepp reported, in 1889, one hundred cases of whooping cough treated with bromoform without a single failure, and his results were indorsed by other physicians. Dr. Burton-Fanning also reports thirty cases of his own treated with this drug. Bromoform is a colorless, oily liquid with an ethereal odor and sweet taste, insoluble in water. He suspends the bromoform in a mixture, as follows :

Bromoform.....	m j.
Pulv. tragacanth co.....	ʒ ss.
Syr. simp.....	ʒ ss.
Aq.....	ad ʒ ss.

For children under one year he gives half a minim, up to three years one minim, up to six years two minims, three times a day, to begin with ; then, if necessary, these doses may, with safety, be gradually increased until they are doubled. It is important to have a fresh supply once a week, to keep the bottle in the dark, and shake it before taking the contents. Bromoform should never be used when it is of a brown color, as this is due to its decomposition and the liberation of free bromide. He considers bromoform of specific power against the paroxysmal cough, on which the chief dangers of whooping cough depend. The number of paroxysms with this treatment are much fewer, shorter, and less violent, and the vomiting always ceases, but the duration of the disease is not materially shortened. If the bromoform be discontinued within four weeks, the characteristic cough and attendant miseries return at once. He also finds that this remedy is so specific in its action as to be of great use in diagnosis. In doubtful cases its success or failure to relieve the cough led him to a correct conclusion as to the nature of the disease, as subsequently established by other considerations.—*Boston Medical and Surgical Journal*.

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#### CHLORATE OF SODA IN CANCER OF THE STOMACH.

At a meeting of the French Association for the Advancement of Science in August last, Dr. Brissaud, of Paris, made a report upon the above subject. He said that it was an established fact that solutions of chlorate of potash exert a very favorable influence on epithelioma of the mouth, and certain forms of cancrioid of the face. The successful results obtained with this method induced him to try the effect of the corresponding salt of sodium in the treatment of carcinoma of the stomach. This salt was selected because it is much less toxic, and more soluble than chlorate of potash, seeing that relatively large doses may be injected into animals without ill effect, and that it is soluble in three times its own weight of water, while the potassium salt requires twenty parts of water for complete solution. He had treated several undoubted cases of cancer of the stomach by the administration of chlorate of sodium in doses varying from eight to sixteen grammes (two to four drachms) in the twenty-four hours. The results were so satisfactory that if his observations were limited to one or two cases only he would hesitate to publish them, because he might possibly have mistaken cases of chronic gastritis for cancer ; for the former, as is well known, sometimes present all the symptoms of malignant disease. But during the last four years he had tried this treatment with equal success in five successive cases of localized gastric cancer, and it is difficult to admit that an error of diagnosis was committed in each of these five cases ; this is the more improbable seeing that three of the

patients presented a distinct epigastric tumor. In every case the treatment was followed by the most remarkable improvement, amounting practically to a cure. The drug was given in doses of twelve, fourteen, or even sixteen grammes in the twenty-four hours, and the patients may now be regarded as radically cured. Under the influence of this treatment, the melena, hematemesis, and cachexia disappeared; the appetite returned; and in the three cases in which a tumor could be detected in the epigastrium, it gradually subsided until no trace of it was left at the end of six weeks. On the other hand, the treatment failed in a number of cases; for while chlorate of sodium seems to exert a favorable influence on malignant tumors of the epithelial type, it produces no effect whatever on the interstitial sarcomatous type of neoplasms. Moreover, the failure in some of these cases is to be attributed either to the fact that cancer had already spread to other organs, or to the presence of complications which were not amenable to the treatment. For example, in one case the liver was already involved when the administration of chlorate of soda was commenced. In another patient, a young woman who had at first experienced some relief from the treatment, the disease suddenly extended to other parts of the body, where it developed with extreme rapidity. She was a patient of Dr. Nélaton; she received sixteen grammes of chlorate of soda a day, and in the course of a few weeks hematemesis ceased, appetite returned, and she put on sixteen pounds in weight. This improvement was so remarkable as to suggest an error of diagnosis. At the autopsy, however, cancerous nodules were found in various organs and tissues. In a third case death was due to phlebitis of the inferior vena cava. It cannot, therefore, be included in the statistics of the treatment of gastric cancer by chlorate of soda.—*New York Medical Record.*

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#### A NEW PHYSICAL SIGN FOR THE EARLY DIAGNOSIS OF CROUPOUS PNEUMONIA.

Dr. F. H. Morrison, writing in *The Lancet*, refers to the difficulty of the early diagnosis of pneumonia in children, and quotes Dr. Francis Moinet, in "Keating's Cyclopedia of Diseases of Children," who says: "In not a few cases no satisfactory results are obtained by auscultation and percussion until a comparatively late period, owing to the limited extent of the affected region, and its position in the centre of a lobe surrounded by healthy lung tissue." In several cases recently seen, where the general symptoms of pneumonia were present, but none of the ordinary physical signs, Dr. Morrison adds: "I have discovered what I am venturing to describe as a new physical sign. On careful auscultation of the chest I have heard jerky expiration over a limited area, and on noting

the position of this area have found developed in it subsequently the usual signs of pneumonia. This jerky expiration is the first physical sign developed, and can be heard soon, if not immediately after, the rigor, before dullness or crepitations appear. It is much more distinct in children, but I have also heard it in adults."—*New York Medical Record*.

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#### THE TREATMENT OF PERICARDITIS. LEES (D.B.).

*Etiology.* Majority of cases are of rheumatic origin, which may be shown by obvious or only very slight joint symptoms, or by chorea. Others are associated with a dry pleurisy, which may be double, and may be accompanied by pneumonia; and these again are probably rheumatic, and are often of a very fatal type. The author has only seen the peritoneum affected once in this latter group of cases. Chronic Bright's disease is a less common cause than is usually stated (only about 7 per cent.—Sir Wm. Roberts), tubercle occasionally, and malignant growths rarely.

In twenty-eight cases of the author's, last year, sixteen were rheumatic (57 per cent.), eight accompanied pneumonia or pleurisy, and one each occurred with granular kidney, with tubercle, with sarcoma, and with aortic aneurism. The percentage of the rheumatic cases would be much higher if cases of adherent pericardium and other consequences of pericarditis were included.

*Symptoms and signs.* The author notes the cases in which a friction sound is never heard in the whole course of the disease, and those in which early on it simulates a new double aortic murmur; and he emphasizes the importance of correct diagnosis in the latter case, both because of the greater gravity of pericarditis, and the fact that it is more open to treatment.

Dilatation can often be made out early in the disease, especially on the right side (because the right ventricle is thinner and therefore sooner affected than the left). This is accompanied by dyspnea, coming on before cyanosis exists, and due, according to Lees, to "a physiological reflex, by which the distension of the right ventricle causes stimulation of the respiratory centre, thus bringing about its own relief," just as the distension of the left ventricle acts on the vaso-motor centre and opens up the visceral vessels. Dilatation of the left ventricle soon comes on, the pulse becoming weak and often irregular.

He lays especial stress on the great gravity of the affection, which, he thinks, is often not sufficiently appreciated; his experience being that, though most cases of rheumatic pericarditis recover, the recovery is imperfect, and the patients are left cardiac cripples.

*Treatment.* The chief is the ice-bag applied to the precordium, the

effect being watched. It is injurious, however, in the subacute recurrent cases in rheumatic children, but applicable to acute cases. Salicylates not to be discontinued, the depressing effects reported having been due, probably, to impurities of the drug. Morphia subcutaneously; leaches to the precordium in early stage. In one case, venesection was of use where there was great engorgement of the right side of the heart.—*Lancet*, July 22, 1893.

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#### ON SOME POINTS IN THE TREATMENT OF EPILEPSY. (ALEXANDER, WM.).

The author passes over the gynecological and surgical aspects of the disease, merely remarking that whenever there is a history of head injury with the existence of any irregularity of the cranium said to have resulted from it trephining should be performed; as the operation, without opening of the dura mater, entails but little risk.

In most cases, however, general and medical treatment are alone applicable. "In the first place, the mind of the patient must be placed in such a state of repose and content that relief is likely to occur." It must, therefore, be explained to the friends and to the patient himself (if old enough) that immediate relief from the fits is not likely to occur, and arrangements must be made so that his healthy intervals may not be unhappy. Where the friends are in a constant state of excitement, and even more so when they are indifferent and regard the patient only as a nuisance, he should, if possible, be removed from home. The medical adviser must become the friend of the patient, gaining his confidence, teaching him to realize his position, and to understand the necessity for restraint.

As far as possible the patient should live like other people, avoiding undue excitement. Children should be educated mentally, morally, and physically, and generally require private tuition; they should be allowed to play games, even when there is some slight risk in so doing. The risk is not so great, as the fits do not generally come on when the patient's faculties are on the alert, but when he is half asleep, at rest, or after excitement; and the dangers of checking him at every point are mental enfeeblement and imbecility. "The most dangerous position for an epileptic is to be alone, no matter where he is," and his companion should not be a mere attendant or keeper.

In the case of adults it is very important to find them interesting employment, preferably out of doors. With poor patients this may now be done by placing them in homes in which labor is carried on in special workshops, and under protection, examples of such homes being that at Maghull, Lady Meath's "Home of Comfort," at Godalming, and the



“National Association for the Employment of Epileptics,” near London. They are, however, quite inadequate to meet the requirements of all.

The food of epileptics is to be simple and unstimulating. The hours of sleep are to be ample but not excessive, as is the tendency in these patients. Tobacco is to be avoided.

As regards drugs, bromides have been looked on as the mainstay. The author, however, thinks that in large doses they decrease the number of fits only at the expense of the mind and of the general health, and often do not even decrease the fits.

At the “Home,” at Maghull, a combination of borax (20 grains) with sodium bromide (5 grains), three or, in a few cases, four times a day, has proved most useful both in decreasing the number of fits, and, even more, in improving the mental condition of the patients, who became brighter and more cheerful, even when almost imbecile. Borax alone did not give such results. An examination of the tabulated record of cases shows that in nine the fits were arrested for periods of several months; in seventeen diminished in frequency, often very greatly; in one there was no effect; and in one the number increased.

There are three drawbacks to this treatment: (1) It is apt to cause gastric disturbances. The medicine must, therefore, be taken after food, the dose being small at first and gradually increased. If necessary, stop or decrease the supply for a few days. (2) Erythema, going on to eczema, may be caused with intolerable itching. This generally passes off if the drug is persevered with. Alkaline baths relieve the itching in the meanwhile. (3) Alopecia, complete or in patches, occurs in a few cases. Generally, the hair appears again, even if the drug is continued; but if not, stopping the drug generally suffices.—*Liverpool Medical-Chirurgical Journal*, 1893.

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## THERAPEUTICS

IN CHARGE OF

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### CHLORIDE OF ETHYL.

Dr. Edgar Gans, of Carlsbad, refers to the experiments by Debove with methyl chloride as an anesthetic, which acted by refrigeration of the part. Ethyl chloride, however, has proved more effective. It is a color-

less fluid, with a pleasant ethereal odor, and boils at 50°F. It is prepared by treatment of alcohol with hydrochloric acid:  $C_2H_5OH + HCl = C_2H_5Cl + H_2O$ . The hydroxyl of alcohol is, therefore, replaced by chlorine.

Chloride of ethyl is obtained for use in small closed glass tubes, one end of which is drawn out into a fine capillary tube. To anesthetize a given surface, the extremity of the capillary tube is broken off, and as the ethyl chloride boils at 50°F. the heat of the hand is sufficient to force the fluid in a fine spray upon the desired part. The tubes contain about 2½ drachms, which usually is sufficient.

The effect of the spray is first to redden the skin, and then in about a minute to render it completely white. Then a coating of ice is formed in the shape of fine snow. Usually, the tube is best held at a distance of about one foot (thirty centimetres) from the spot to be affected.

The remedy is free from disagreeable odor, and no threatening symptoms occurred in Gans' cases. A few nervous individuals experience a peculiar drawing in the extremities and a feeling of confusion, lasting a few seconds.

Gans experimented upon dogs in Professor Liebreich's laboratory, and proved that the remedy, under repeated use, does not produce thickening of the skin, scaling, or gangrene. In one dog, after the use of two tubes, a thermometer showed that the subcutaneous temperature was reduced to 15° to 18°C. (59° to 65°F.).

Gans refers briefly to a number of his cases in which the results obtained were remarkable. One was a case of supra-orbital neuralgia, which had persisted for six weeks with the most violent pain. One application of the ethyl chloride cured it. In another there was neuralgia of the left mammary gland, which had resisted treatment for five months. The first application caused the pain to disappear completely, but it returned next day, whereupon the application of ethyl chloride was repeated daily for two weeks; the patient has been free from pain for ten months.

In a third case, one of lumbago, in a man sixty years old, who was unable to stand erect, one application appears to have worked a cure.

In three cases of beginning gouty attacks the ethyl chloride appeared to cut short the attack.

In several cases of migraine the pain ceased immediately after the employment of the ethyl chloride.

In a case of pruritus of the scrotum, in a diabetic forty years old, whose single subjective complaint for five years had been the persistent itching of the scrotum, a single use of ethyl chloride produced freedom from itching, lasting five weeks.—*Therapeutic Gazette.*

## OBSTETRICS

IN CHARGE OF

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## RELATION OF THE VAGINAL SECRETIONS TO PUERPERAL FEVER.

Doderlein (*Zeitschr. f. Geburts-Nulfe*) examined the secretions in one hundred and ninety-five cases of pregnant women with reference to the presence of pathogenic organisms. In normal secretions only fission fungi were found, while bacilli and cocci occurred in great number and variety in those of disease. The percentage of healthy cases was 55.4 per cent.; of pathological, 44.6 per cent. In primiparæ the proportion of normal cases was a little larger, amounting to about 64 per cent. The author suggests the litmus reaction as a ready means of distinguishing healthy from morbid conditions of the vaginal secretions. Normally, the reaction of the vaginal mucus is strongly acid, while in disease it is faintly acid, neutral, or alkaline. Experiments show that the acid condition of the vaginal secretions is produced by the innocuous organisms which have their habitat in the healthy vagina. The author found by culture experiments that these organisms, when present in great abundance, were inimical to the growth of the staphylococcus. A similar observation has been made by Bumm.

The author's conclusions for the practical obstetrician are to the effect that, in women whose vaginal secretions present the normal litmus reaction, a feverless childbed is assured, provided they escape infection from without.

In morbid conditions of the vaginal secretions, pathogenic organisms are liable to be transported into the uterus on the examining finger. Without internal manipulations of any kind during labor, the danger of infection is almost *nil*.

In private practice it is generally impracticable to distinguish between healthy and morbid vaginal secretions. The prophylaxia for every case must be such as to protect against all possible sources of infection.

In hospital clinics, the litmus reaction serves to separate the diseased from the normal cases.

Antiseptic irrigations of the vagina for disinfection is not reliable. The irrigating fluid does not penetrate all the folds and recesses of the passages. Steffek and Doderlein have practised irrigation combined with thorough friction with the fingers, and lubrication is re-supplied by rubbing the vaginal surfaces with mollin.

For diseased cases they recommend the use of the disinfectant douche

during the latter weeks of pregnancy as more satisfactory than attempts at sterilizing the passages during labor. A one per cent. solution of lactic acid answers the purpose. The secretions gradually take on a healthy character. The douching is discontinued when the litmus test gives a constant reaction.—*Brooklyn Medical Journal*.

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#### TREATMENT OF ABORTION.

Prof. Schauta, of Vienna, expresses his views with reference to the "Treatment of Abortion" in the *Med. Chirurg. Centralblatt*, and portions of his paper are quoted in the *Therapeutic Gazette*.

He says: "The first question to be answered before treatment is, can the abortion be prevented or not? An abortion is preventable so long as the cervix is not patent and the hemorrhage has not reached a threatening degree. He does nothing to check the bleeding, but watches the patient. If the pain and bleeding subside and the os does not open abortion has not occurred, and the patient is kept in bed for eight days after the last bleeding.

"In unpreventable abortions—that is, in cases in which the finger can enter the cervix, or when a very severe hemorrhage has occurred, the most dangerous symptom—the hemorrhage must be controlled. The abortion must be hastened, but not by emptying the uterus with the finger or curette, because of the danger of leaving fragments of membrane behind."

The following is Schauta's method: Take a strip of iodoform gauze about two yards long and three to four fingers' breadth wide, and firmly pack the entire vault of the vagina, allowing the end to hang out of the vulva. He thinks two fingers of the other hand form a better guide in tamponing than a speculum. If sacral pains occur, indicating that the embryo has been expelled, the tampon may be pulled out. If such pains do not occur, the tampon should be removed in twenty-four hours. If the abortion is not complete and bleeding still exists, it should be replaced, especially if the os is more dilated than the day before. Tamponing may be safely kept up many days if the tampon is renewed every twenty-four hours. In this way, as a rule, the intact ovum is obtained; whereas, by some energetic efforts, it is crushed.

If, however, under the tamponing the os is dilated so as to admit two fingers, but the ovum does not come away, we then interfere actively. Introduce two fingers into the uterus, and with the other hand grasp the fundus and move it about over the two fingers carefully, slowly separating the egg from the uterus; it should now be pressed out if possible; if it is too large for that, grasp it with forceps. The sac may rupture, but this is of no moment, since it is loose, and comes out whole, not piecemeal. If

bleeding still continues, the uterus itself can be tamponed in the same way as described in the case of the vagina. In the difficult cases of incomplete abortion in which part of the ovum or membrane remain in the uterus, one has to be guided by the size of the uterus. If it is large, the egg may be entire; if it is small, only membranes remain. In the former case, the treatment is as already described; in the latter case, the os must, if necessary, be dilated with rubber or glass bougees, and the uterus scraped, with the fingers always introduced as a guide.

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#### UNCONSCIOUS DELIVERY.

Le Blond (*Journal de Médecin de Paris*, July 30th, 1893) related, at a meeting of the Medico-Legal Society of Paris, in July, the following case: A woman, aged 27, illegitimately pregnant, who had been deserted by her lover, was seized with slight colicky pains, but continued to work. During the following night she was attacked with still more severe pain. Thinking that defecation would relieve her pains, she sat upon her chamber utensil, and, upon straining, gave birth to a live child. She was greatly alarmed, but cut the cord with scissors, wrapped the infant in a cloth, and, proceeding down stairs, communicated to the people in the house what had happened. Violent flooding occurred; the cord had not been tied. Le Blond saw the case early the next morning, found the placenta still in the vagina, and extracted it. The mother and child did well. Had the child died, the mother would have been very strongly suspected of murder, especially if she had attempted to defecate in a public privy, in which case the child would have been almost inevitably killed.—*University Medical Magazine*.

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#### VAGINAL INJECTIONS AFTER LABOR.

Eberhart (*Centralb. f. Gynak.*, No. 37, 1893) maintains that injections are always needed after delivery when there is gonorrhœa, when there is any other profuse discharge, when the vaginal mucus is fetid, when the temperature rises, and when any obstetric operation has been performed. Otherwise the injections are not needed in normal labors in private practice. In hospitals they must always be used. Eberhart has seen the best results follow preliminary vaginal douches, after Kaltenbach's practice. He uses them in private, as well as in hospital. He has discarded sublimate, and employs a one per cent. lysol solution. For intra-uterine injections, lysol should always be employed.—*British Medical Journal*.

## SURGERY

IN CHARGE OF

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## QUINSY AND ITS TREATMENT BY EARLY INCISION.

At the late meeting of the American Climatological Association Dr. J. W. Brannan, of New York, read a paper in which he very ably advocates early incision in this very distressing and comparatively prevalent trouble.

The paper appears in the *Medical Record* of Oct. 28th, and from it we have taken the following :

Most cases result in the formation of pus, and until this is evacuated, either spontaneously or by incision, the patient's misery is extreme. The general practice, at the present day, is to give vent to the pus as soon as its situation can be determined. The instantaneous relief given by an opening in the right place is most striking. On the other hand, scarification of the tonsils, as is sometimes recommended, does no good, and usually aggravates the patient's condition.

I have asked the opinions of a number of medical men, including both laryngologists and general practitioners, and their answers have been pretty much to the same effect. Specialists say that the abscess is usually situated outside the tonsil, and lies in the anterior or posterior pillar of the palate or in the palate itself. They believe in giving free vent to the pus wherever found, and are convinced that the operation is attended with no danger, if properly performed.

On consulting the literature of the subject I found the most recent authorities agreed as to the location of the suppurative process and the proper point for incision. Chiari, Bosworth, and Shec state that the inflammation begins in the connective tissue about the tonsil, and usually extends into the soft palate. They advise that the opening should be made at the point I have already indicated, namely, midway between the uvula and the upper alveolar process of the affected side.

Rice, in a careful study, published some two years ago, came to the same conclusion as the above, except that he usually prefers to puncture through the anterior pillar of the fauces.

"The relations of the tonsil to the internal carotid artery are not so intimate as commonly is supposed, for between the lateral wall of the pharynx, the internal pterygoid, and the upper cervical vertebræ, there is a space filled with cellular tissue, the "pharyngo-maxillary interspace," in the posterior part of which are located the large vessels and nerves, and which lies almost directly backward from the pharyngo-palatine arch. The tonsil corresponds to the anterior part of this interspace, so that both carotids are behind it, the internal carotid 1.5 centimetre, the external carotid two centimetres distant from its lateral periphery. Hence, the danger of direct injury to the internal carotid in excision of the tonsil is infinitely small"—*Delewan*.

Zuckerkan dl has made a most careful study of this region. The drawings made from his dissections show that the pharyngo-maxillary space is divided by the stylo-glossus and the stylo-pharyngeus muscles into an anterior and a posterior chamber. The anterior chamber is contiguous to the tonsil; the posterior chamber contains in its hindermost part the internal carotid artery, the jugular vein, and the vagus nerve. The two chambers are filled with fat and loose cellular tissue, and communicate with each other by a very small opening, which gives passage to the inferior palatine artery.

It is probable, as suggested by Chiari, that the anterior chamber of the pharyngo-maxillary space is alone involved in the great majority of cases of quinsy. The firm wall formed by the muscles described by Zuckerkan dl prevents the passage of the pus into the posterior chamber, whereas the tissues of the soft palate yield readily to the advancing inflammation. In rare instances, however, the pus does force its way backward between the stylo-glossus and stylo-pharyngeus muscles, with the results to be indicated later.

The soft palate, through which the evacuating incision is usually made is distant in adults at least three centimetres from the vertebræ against which lies the internal carotid artery. Even in the child the space is considerable, larger relatively than in the adult. I have lately had the opportunity of dissecting a number of newborn infants, and in no case did the distance between the palatal border and the anterior surface of the spinal column measure less than 1.5 centimetre. These measurements apply to the normal pharynx. In the condition we are considering, the soft palate is pushed so far forward by the purulent collection that its anterior margin must be nearly double its normal distance from the vertebræ. An incision of even two centimetres in depth could not, therefore, possibly reach the internal carotid artery. The ascending pharyngeal artery, which has been thought to be wounded in some cases, also lies on the vertebræ, and is therefore equally out of reach of the knife.

The above cases comprise all those I have been able to find recorded in which excessive hemorrhage has followed incision of an abscess in or about the tonsil. And in no one of them was it proved that the internal carotid artery was wounded by the knife of the surgeon. But there is another danger to be considered in operating on a phlegmon of the fauces, which has been alluded to in the histories of the cases of Duke and Murphy. A number of instances have been reported of fatal hemorrhage in quinsy in which autopsy showed an eroded or ruptured artery, generally the internal carotid. Both Bosworth and Chiari mention the occurrence of this accident, but neither one connects it with the operative interference of the attending surgeon. And yet it is the evacuation of the abscess into the pharynx, whether spontaneously or by incision, that causes the rupture of the weakened walls of the artery, or allows free escape of the blood already outside of the vessel, but pent up in the pharyngo-maxillary space.

It has long been held by surgeons that the walls of arteries are proof against the destructive action of pus, so that even prolonged contact with it does not cause perforation of the vessel, unless there be local mechanical irritation, as from a drainage tube or a bony sequestrum. When Liston reported his celebrated case of spontaneous perforation of the common carotid artery fifty years ago, the London Medical and Surgical Society refused to incorporate it in their Transactions, and he was obliged to publish it at his own expense. Since that time, however, other cases, equally striking, have been recorded, and it can no longer be doubted that spontaneous ulceration of arteries does occur simply from the corrosive action of pus.

Vergely believes that the vicinity of the air passages is the great local exciting cause of the accident. Micro-organisms and foul gases are constantly inspired and expired, and may easily give a septic character to the pus in the neighborhood. According to Varneuil, the outer arterial coat becomes thickened in an abscess cavity, if neither fever nor septicemia occurs. But if these complications arise, the protecting cover disappears and the artery is denuded. In angina the pus and gases confined in the pharyngo-maxillary space kill the arterial wall before compensatory hypertrophy has time to take place. Probably the septic character of the pus, combined with pressure, are the important agents in eroding the artery. Hence the supreme importance of relieving the tension of the parts even if suppuration has not yet taken place. Bosworth tells us that we may expect the formation of pus by the end of the second or on the third day. In protracted cases, lasting ten days or two weeks, suppuration is not delayed, but the abscess is probably deeply seated in dense tissue and approaches the surface slowly.



*Conclusions.* (1) In quinsy, the inflammatory process is usually situated without, and not within, the tonsil. (2) If pus forms, it should be evacuated at the earliest moment possible. (3) Unless there are signs of pointing elsewhere, the incision should be made through the soft palate directly backward. (4) If the tension of the parts is very great, the incision is indicated, even though pus has not formed. (5) If ordinary surgical care is exercised, there is no danger of wounding the internal carotid artery. (6) In cases of deep-seated inflammation, in which the pus comes to the surface slowly, erosion of the arteries in the neighborhood may take place. In such cases, therefore, we must be ready to deal with arterial hemorrhage at the moment the abscess discharges into the pharynx.

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#### ONE OF THE BEST APPLICATIONS OF IODOFORM IN SURGERY.

The odor of iodoform, the mental association with venereal disease, and a failure on the part of the profession generally to appreciate the necessity of using a thoroughly sterilized article, are responsible for its comparatively limited application. Lane, in a recent number of *The Lancet*, suggests for it a new application.

In erasing tuberculous joints where the bones entering into their formation contained cavities, often of very considerable size, he has used iodoform very largely, not so much with a view of inhibiting the growth of organisms in the synovial cavity, but as a firm packing to occupy the cavity in the bone, which would otherwise be filled with blood, and would form a very formidable nidus for the growth of tubercle bacilli. In such a joint as the knee or ankle, where every particle of synovial membrane can be thoroughly and effectually removed, there is not the slightest chance of recurrence, for the reason that the retention of a drainage tube for forty-eight hours with firm pressure insures the accurate apposition of living tissues, all blood and other effusions having been driven out through the tube by the pressure of a flannel bandage, firmly applied. Where, however, a large cavity has been left in a bone, no amount of external pressure can influence it, and it must of necessity remain filled with blood and be a source of danger to the individual. Such a cavity he treats in the following way, and up to the present has never known it to fail: An Esmarch's bandage being applied above the joint to control the circulation, the joint is erased, and any cavity in the bone is thoroughly cleared out and the hole carefully dried with sponges. Some iodoform is then washed with 1 to 20 carbolic lotion, and poured on to a piece of lint and squeezed as dry as possible. It is then introduced in masses into the cavity in the bone and stamped firmly in, much as a dentist fixes a gold stopping in a carious tooth, and when the cavity has been completely

filled the surface of iodoform is planed down level with the surrounding bone.

It will be noted that the above method of administering iodoform differs altogether from its employment as an emulsion. Lane uses the iodoform as a packing to occupy for a sufficient length of time—with a solid material which contains no organisms, and in which organisms cannot grow—a cavity which would otherwise contain blood in which micro-organisms might readily grow, especially if they were present in other parts of the body, this packing being gradually removed and replaced by bone.—*Therapeutic Gazette*.

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#### THE TREATMENT OF CARBUNCLE BY CARBOLIC ACID INJECTIONS.

In reporting several cases of carbuncle treated by injections of carbolic acid (*Medical and Surgical Reporter*), Dr. Wilkinson, Galveston, Texas, says :

I usually add to ten minims of pure carbolic acid as many drops each of alcohol and glycerine, and have then as much of the injecting fluid as would be needed to cure the largest-sized carbuncle. One grain of cocaine might be added to the above to insure freedom from pain in its administration ; but this is hardly necessary, as the carbolic acid itself soon acts as a local anesthetic, and the little smarting that attends its use only lasts about a minute.

An ordinary hypodermic syringe is generally employed to inject this fluid with, though a Heaton hernia needle is preferable on account of being supplied with a blunted point. Of the foregoing mixture, twenty minims should be injected right and left through the tumor, care being used to throw the fluid out towards the inflamed periphery until all portions of the carbuncle have been reached. Any excess of fluid which may ooze back through the sinuses should be picked up with clean blotting paper, and after every such injection a soft pad of absorbent cotton should be bandaged down upon the growth. Usually, one of the injections will suffice, but occasionally it may be found necessary to repeat the operation in the course of forty-eight hours, should the first not be sufficient to allay the inflammation.

It is true that some care and nursing will be required in the retrograde stage of carbuncle poulticing. Strapping and silver applications will probably be required to expedite healing ; but, the specific nature of the sore having been destroyed by the acid, we have left only a simple, healthy ulcer to look after for a few days, instead of a malignant and tormenting affection.

## PEDIATRICS AND ORTHOPEDICS

IN CHARGE OF

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### FERRIC CHLORIDE IN DIPHTHERIA.

Braun (*Allgemeine Wiener Med. Zeit.*, No. 38, 1893) gives his experience in the treatment of diphtheria by ferric chloride. The author's attention was directed to the favorable experiences of Hübner and Rosenthal with solutions of perchloride of iron. His own trials with this medicament were exceedingly satisfactory, and he introduced a form of application—an ointment instead of a solution—which will, he is convinced, reduce the number of deaths to a minimum if universally and exclusively persisted in. The internal administration of two per cent. ferric chloride did not, as Rosenthal stated, prevent the further development of the disease, but, applied locally, Braun found that it left nothing to be desired. His ointment was composed as follows: ℞.—Ferri perchlor., 4 drachms; ung. lanolini, 1 oz. It possesses many advantages over a liquid preparation. Applied on a plug of cotton wool firmly fixed to the end of a probe, the membranes can be easily cleared away by a slight rotary motion, while at the same time a portion of the ointment is left on the affected part. The remedy can be used in a very concentrated form, none being swallowed, and the unctuous nature of the application allows the operation to be conducted with such delicacy that energetic action can be secured without any complaint from children of violent pain or burning. There is also no fear of producing wounds which might afford fresh means of entrance for the diphtheritic poison. Another advantage of using lanolin for this ointment is not only that the exposed surfaces are well covered, but portions of the mixture adhere firmly to the mucous surfaces, and thus exercise their action for a prolonged period. On these grounds, as well as on account of the aseptic nature of lanolin, it is preferable to all other ointment bases for the purpose. It is observed in this treatment with ferric chloride lanolin ointment that the affected parts are colored brown for ten hours or more, whilst the unaffected parts are hardly discolored. The ointment appears, therefore, to act only on those parts where the mucous coating is already destroyed by the diphtheritic process.—*British Medical Journal.*

## PERIPHERAL NEURITIS FROM LARGE DOSES OF ARSENIC IN THE TREATMENT OF CHOREA.

At the October meeting of the Manchester Clinical Society Dr. Railton, the president, showed a girl, aged ten years, who had been treated at the Manchester Clinical Hospital with Fowler's solution for chorea of three months' standing. In three weeks the chorea was cured. The doses given were as follows: 5 drops three times a day for three days; 10 drops three times a day for three days; 15 drops three times a day for fifteen days. Total for the twenty-one days,  $13\frac{1}{2}$  drachms of Fowler's solution, equivalent to  $6\frac{3}{4}$  grains of arsenious acid. During the course she showed symptoms of stomach derangement, and two days after the discontinuance of the medicine she was noticed to be desquamating freely. Ten days later she could not walk alone, and complained of pains in her arms and legs, the latter being particularly sensitive to pressure. When she put her feet down she felt "pins and needles." She could not button her clothes. Thus motor paralysis, sensory trouble, and ataxy were present. The knee jerks, which were very active before treatment, were lost; she could not flex the feet upon the ankles, and if, when supported, she tried to walk, she showed the soles of her feet completely from behind. The affected muscles of the legs had lost their faradic reaction, and showed the reaction of degeneration with the voltaic current. She could not touch the little finger with the thumb on the right side. The urine was slightly albuminous. The president mentioned nine other cases of children whom he had treated with 15-drop doses of Fowler's solution, three of them for a week only, and the rest for a fortnight. Seven had vomiting, one diarrhea, three herpes zoster, two erythema, and one had peripheral neuritis, though not so severely as the case above mentioned. In all cases the chorea was cured at the end of the treatment. He considered that 15-drop doses were too much if continued for more than a week, and had determined not to administer this dose for longer than that period in future.—*British Medical Journal*.

## ETIOLOGY OF INCONTINENCE OF URINE IN CHILDREN.

In a paper read before the American Pediatric Society, Mr. B. K. Rachford considers the causation of urinary incontinence, and believes that the three great factors in its production are: (1) Irritable and unsteady nerve centres; (2) anemia, with consequent malnutrition; (3) reflex stimulation of certain nerve centres in the lumbar cord.

In the majority of cases these three factors exist, but they do not exist in all. For example, we may have incontinence without anemia, and anemia without incontinence. We may also have incontinence without

apparent reflex irritation, and reflex irritation without incontinence. It is not sufficient, therefore, to say that adherent prepuce, vesical irritation, or some other reflex cause, is the cause of incontinence of urine; neither is it sufficient to say that anemia with malnutrition is the cause of the condition; nor can we say that neurotic inheritance is, as a rule, sufficient to produce incontinence, since a great majority of nervous children do not suffer in this way. A rational enquiry, therefore, into the etiology of this condition must consider not only how each of this tripod of factors may act in producing incontinence of urine, but it must also inquire into the interdependence and relationship of these factors. The author, in the course of his paper, gives the following lucid description of the mechanism of micturition:

“That one may understand the importance and relationship of the above-named factors in producing incontinence, it will be necessary to keep in mind the mechanism of micturition. One must remember that the longitudinal and circular muscular fibres of the bladder, which by their contraction empty the bladder, are enervated by sensory and motor nerves from the lumbar region of the cord, and that the external sphincter in the prostatic portion of the urethra, which by its contraction prevents the escape of urine from the bladder, is also enervated by sensory and motor nerves from the lumbar cord. Dr. Von Zeissl's recent researches on the innervation of the bladder gives us a better understanding of this subject. He found that the ‘erector nerve’ was not only the motor nerve of the muscular coat of the bladder, but that it was the inhibitory nerve of the sphincter vesicæ, and that the ‘hypogastric nerves’ carry motor fibres to the sphincter vesicæ and inhibitory fibres to the muscular coat of the bladder itself. These researches of Von Zeissl make plain the manner in which reflex causes may act in starting or checking the flow of the urine. For example, a reflex carried to the proper centre in the lumbar cord would, through the motor fibres of the erector nerve, contract the muscular coat of the bladder, and through the inhibitory fibres of the same nerve relax the sphincter vesicæ, and in this manner allow the urine which is being expelled by the contracting bladder to pass without hindrance through the relaxed sphincter vesicæ. This is indeed a simple and beautiful nervous mechanism that must be understood if we would understand the etiology of incontinence of urine. But another important fact must also be remembered in this connection, and that is that the act of urination is in part under the control of the will. We will to urinate or not to urinate, and the message passes down to the centres in the lumbar cord where, by the mechanism just described, the reflex is completed.”

## TREATMENT OF ENLARGED CERVICAL GLANDS.

Dr. Clifford Allbutt, in opening the discussion at the August meeting of the British Medical Association, expressed his views regarding the mode of production of disease in these glands, and outlined its course in the following terms :

"It is probable that in the absence of pathogenic microbes glandular enlargements may occur in the presence of an excess in the products of destruction, but that they are mild and transitory. It is probable that scrofulous neck is always due to the entrance of a pathogenic microbe, generally by way of the tonsil. It is also probable that more than one microbe may enter into some such series—that, for example, the bacillus of tubercle may follow, and carry on the work of Loeffler's bacillus, or of the hypothetic microbe of scarlatina ; and ordinary pyogenic cocci may follow any of these.

"Hyperplasia of the smaller adenoid masses is probably of no nosological importance. Hyperplasia of the larger masses, when it does not exceed the limits which we conveniently call 'physiological,' recedes without serious injury to the patient, and may be a beneficent process. When hyperplasia of these masses passes beyond physiological limits, it may lead, and commonly does lead, to necrosis. In the majority of cases, this necrosis is not extensive, the dead stuff is removed more or less quickly, and health is restored.

"When the hyperplasia is more excessive, and the necrosis extensive, there is not only much to be done in the removal of the defenders of the city who are dead, but also in the accumulation of the dead we find new centres of dispersion of evil ; either in the dead matter microbes find a favorable bed, or the products of decomposition, by weakening the tissues around, render them more vulnerable, or less capable of defence.

The supervention of such secondary events establishes a secondary pathological series which may have no term within the boundaries of systemic life, or against which there may be no barrier. If the process be less intense, or the patient more vigorous, a cure may be indirectly attained by corroboration of the vital powers of the patient, isolation of the mischief, and attenuation of the process in time. Of direct cure there is none by way of medication. If the process be more intense, or the patient be less vigorous, the morbid series may, by implication of additional areas, or by systemic poisoning, end in systemic death ; or, if it have a term short of this, may result in serious constitutional injury and in ugly local injury."

Continuing the discussion, Dr. Pridgin Teale advocated early removal of the affected glands as being the only reasonable procedure, expressing

at the same time his disbelief that the gland could be at all affected by such treatment as painting the skin with iodine, etc. In order that the glands may be removed with the least possible disfigurement Dr. Teale recommends :

(1) Whenever fluid—that is, pus—can be detected in connection with a diseased lymphatic gland, the operation should be done before the skin becomes red and thin—that is, before the skin has been spoiled by advancing suppuration.

(2) When the diseased gland is subcutaneous—that is, not beneath the deep fascia or muscle—and has been completely removed, the least scar will result if neither stitches nor drainage tube be used, especially if it be possible to leave the wound uncovered by dressing and exposed to the air so that the edges may be drawn and glued together by drying lymph.

(3) If the diseased gland be beneath the muscle or muscular fascia, then a drainage tube must be used, and the edges of the wound must be united by suture. For this purpose probably horsehair or silkworm gut well soaked in carbolic lotion are the best sutures. The best drainage tube is the gilt spiral wire, especially as it may have to remain from two to eight or ten weeks, according to the depth of the wound, or the completeness of the removal of the gland.

(4) Where many glands have to be removed, it is better, so far as may be, to remove them through a series of small incisions, and thereby to avoid very extensive ones.

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#### LINEAR CRANIOTOMY IN MICROCEPHALUS.

Clayton Parkhill (*Intern. Med. Magazine*, Nov., 1893) reports two cases of microcephalus in which he performed linear craniotomy. In one of these the patient was a boy, aged 4 years and 8 months, who is described by the author as a "hopeless idiot." His head was markedly microcephalic and conical, owing to the lack of development of the frontal and parietal eminences. With antiseptic precautions, a piece of bone was removed on the right side of the median line, so as to make an opening  $6\frac{1}{2}$  inches in length and  $\frac{3}{4}$  inch in its greatest width. On the eighth day union had taken place by first intention. Within twenty-four hours after the operation, the child's expression was better, and he had lost the restlessness which had formerly characterized him. By the end of a week he would play continuously with objects, and amuse himself for hours with picture books. Eleven weeks after the first operation the left side was operated on in a similar manner, except that an additional bone incision,  $1\frac{1}{2}$  inches long by  $\frac{1}{2}$  inch wide, was made, extending downwards toward

the ear from the middle of the long bony wound ; this second opening was made with the object of freeing the speech centre. Union by first intention was perfect when the wound was first dressed on the tenth day. The result of the operation, in the words of the author, is that the child "has been converted from a condition of drivelling idiocy into one of fair intelligence in these short months. His development has been quite twice that of the average child under normal conditions." In the other case, the patient was a girl, aged 5 years and 9 months, unable to utter a single word, and giving no sign of intelligence. In the second case but one side had been operated upon, and at time of report no improvement had been noted.

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#### TRANSPORT OF TUBERCLE BACILLI.

The trains of women's dresses constitute a means of carriage of tubercle germs and other micro-organisms which should not be underestimated. During their use on the street and public localities, dress trains continually pick up sputa, which may dry on them, and so find their way into the living room. Dixon made examination of a small quantity of dust taken from a dress which had been but a few times on the street, and in one preparation found seven tubercle bacilli.—Dixon, *Times and Register*, No. 704.

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#### TRANSMISSIBILITY OF TUBERCULOSIS.

Solles, in the *Journ. de Méd. de Bordeaux*, reports that he has inoculated two guinea-pigs, one with fluid expressed from the testicle of a tuberculous subject, the other with fluid from the seminal vesicle of a tuberculous patient. In the first case the result was negative, but in the second a general tuberculosis developed.

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#### I. ELECTROLYSIS IN THE TREATMENT OF FIBROUS ANCHYLOSIS.

DWYER (NEW YORK).

The treatment of fibrous ankylosis by forcible movement of the joint is generally unsatisfactory. The treatment of six cases by electricity is given in detail, with the following results :

CASE 1. Pain which had persisted for three months (injury to shoulder) was relieved at once; circulation improved; motion and general usefulness greatly increased. Duration of treatment, 25 days.

CASE 2. Disease of wrist joint and ankylosis of all joints of the hand. Duration of treatment, 37 days. Motion and usefulness greatly increased.

CASE 3. Limited motion (35°) at elbow after fracture of external condyle. Treatment for 7 days. Arc of motion increased to 78°.



CASE 4. Disability of hand after Colles' fracture. Treatment for 16 days. Circulation improved; flexion and extension increased from  $18^{\circ}$  to  $60^{\circ}$ ; lateral motion from  $9^{\circ}$  to  $32^{\circ}$ . Motion and usefulness of fingers much increased.

CASE 5. Pain and stiffness of elbow joint from syphilis. Operation for clearing the olecranon fossa of a bony growth, after which there was a motion through an arc of  $10^{\circ}$ . Duration of treatment, 10 days. Motion  $45^{\circ}$ .

CASE 6. Complete ankylosis of the elbow joint at a right angle. Operation to remove bony union between ulna and radius. Treatment by electricity commenced ten days after operation, and continued eight days. General circulation much improved. Gain in flexion and extension  $47^{\circ}$ .

Two of these cases were followed up, and results were found to be permanent. The galvanic current was used for a period from ten to thirty minutes, and repeated at intervals varying from one to five days.—*Annals of Surgery*, August, 1893.

## II. ANCHYLOSIS OF ELBOW JOINT AFTER TREATMENT OF FRACTURE OF LOWER END OF HUMERUS, HAVING FOREARM EXTENDED. WRIGHT (BROOKLYN).

Ten cases were treated by the author, who makes the following statements:

(1) An upper limb with a stiff elbow joint, having the forearm extended, is a source of much disability and discomfort.

(2) Right-angled deformity would be much more useful.

(3) Ankylosis may result whether the forearm be kept flexed or extended during treatment.

Five cases were treated by exsection, in none of which could the ankylosis be broken up with safety. The disability in every case was found to be very great, and could be relieved only by operation. The author holds that these cases should have been treated originally by putting up the fracture with the forearm flexed at an angle of  $90^{\circ}$ .

The usefulness of the limb was much improved in every case.

Four cases were treated by infraction.

CASE 6. Boy of nine. After fracture of both condyles, arm was dressed on splint at an angle of  $135^{\circ}$ . Ankylosis. Eight months' treatment necessary to bring arm up to a right angle.

CASE 7. Boy of twelve. Fracture of external condyle and dislocation. Had been treated on anterior splint at an angle of  $135^{\circ}$ . Infraction and recovery at angle of  $90^{\circ}$ , with slight motion.

CASE 8. Man, 49. Fracture at elbow had been treated by anterior splint, arm being fully extended. Anchylosis. More than half normal motion after infraction.

CASE 9. Young woman, 18. Fracture of lower end of humerus had been treated by a splint at angle of  $135^{\circ}$ . Anchylosis. Infraction, improvement.

CASE 10. Man of 45. Fracture had been treated by a nearly straight anterior splint. Slight motion, but not flexion sufficient to be useful. No treatment.

These cases are adduced by the author as evidence relevant to the issue bearing upon the position of the forearm during treatment of fracture at the lower end of the humerus.—*Annals of Surgery*, August, 1893.

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### III. THE TREATMENT OF SENSITIVE SPINES. LOVETT (BOSTON).

Attention is called to a sensitive, painful condition of the spine marked by nervous symptoms and simulating organic disease of the vertebræ. There is no angular deformity, but extreme sensitiveness to superficial pressure. Spine is generally flexible, but may be held rigid. Neurasthenic symptoms generally prominent.

The severer cases should have rest in bed, feeding, massage, and faradic electricity. Next, after some days or weeks, gentle exercises are given, calling into play the erectors spinæ muscles. Walking is then encouraged, and a spinal brace may be permitted as a temporary measure.—*Boston Medical and Surgical Journal*, July 16, 1893.

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## PATHOLOGY

IN CHARGE OF

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### MILCH COWS AND DIPHTHERIA.

In the nineteenth annual report of the Local Government Board (supplemental report of the medical officer, London, for 1889-90) Klein published the result of a series of experiments on cows and calves with the poison of diphtheria. Circumstances connected with several outbreaks of diphtheria had given rise to the suspicion that the disease was spread by means of milk supplied to the families in which it appeared. Granted that the virus had been carried and communicated by means of milk, it remained to be decided whether infection of the fluid had taken

place whilst it was being transported from place to place, or whether it had received the germ from the cow. It is said that in at least three outbreaks, in England, there was no evidence that the milk had been infected by those through whose hands it had passed.

Klein inoculated two sound cows with a pure culture of the diphtheria bacillus. In both cases similar lesions resulted; one animal died in twelve days, the other was killed on the twenty-fifth day, being in a dying condition. The points of chief interest in the morbid anatomy in these two cases were the appearance of a tumor, composed of exudate and necrosed tissue at the seat of inoculation, and of a vesicular eruption upon the udder and teats. In the tissue of the tumors and the lymph of the vesicles diphtheria bacilli were found, and cultures obtained therefrom. Early bacteriological examination of the milk in these cases also demonstrated the presence of the same germ, but when undertaken later the results were negative. That the outbreak upon the udder and teats was infectious was proven by inoculating calves from the vesicles, with the result that a precisely similar eruption developed. The deduction from these experiments is easily made.

Examination of an article in the October number of the *Journal of Pathology and Bacteriology* (1893) will show that the results of Abbott's experiments do not at all bear out Klein. Abbott also inoculated two cows with pure cultures of Loeffler's germ, and, very curiously, made use in one instance of a tuberculous animal for his experiments. Klein would probably and, rightly, decline to accept results from such a source if they negatived his. Abbott found the bacillus at the seat of inoculation only; no eruption of any kind, nor abnormal change was seen in connection with udders or teats; the milk gave negative results after "careful and prolonged study"; no internal lesions, such as Klein describes, were found. Evidently, further investigation must be undertaken before a definite verdict can be given.

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#### W. T. COUNCILMAN ON GONORRHEAL MYOCARDITIS.

There have always been two opinions held about the secondary infections following gonorrhoea; one that they are due to the accidental infection with other organisms which enter through the lesions in the urethra, produced by the disease. Gonococci have been found by various observers in these secondary lesions. Other observers have failed to find them. The most prominent secondary lesions consist of the various joint affections, of peri- and endo-carditis, and of inflammation of the neighboring lymph glands giving rise to the bubo. Chronic inflammation of the Fallopian tubes in the female is now very generally regarded as due to a pre-

vious infection with gonorrhœa. In a case recently seen at the city hospital there was an acute urethritis, acute inflammation of the joints, and an extensive peri- and myo-carditis. Gonococci were found in all of these places. The lesions in the urethra closely simulate those described by Bumm in his experimental work on the disease. The gonococci were found only in the superficial layers of the epithelium. In the sub-epithelial tissue there was marked round-cell infiltration. It appears probable from a general consideration of the secondary infections that they are true infections resulting from the presence of the gonococci. In the cases in which organisms have not been found, it is very possible that they were so few that the ordinary microscopic investigation would not reveal their presence. That the affection is not due to the presence of pus organisms is shown from the fact that cultures made from these secondary lesions are so generally sterile.—*Transac. Assoc. Am. Phys., Rep. Boston Med. and Surg. Jour., Sept. 7, 1893.*

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#### STUDY OF THE PART PLAYED BY EBERTH'S BACILLUS IN CAUSING COMPLICATIONS OF TYPHOID FEVER.

Deluc (*Jour. Internat. de Bibliog. Med.*) has set forth the results of his study as follows :

(1) Suppurations in the skin and subcutaneous tissues, in whatever form they may appear, as erythema, furuncles, or abscesses, are due to staphylococci.

(2) Lesions of organs in the vicinity of the mouth, the parotid, pharynx, larynx, and middle ear, depend upon streptococci; the pneumococcus and staphylococcus sometimes are active here also.

(3) Subacute peritonitis due to perforation is caused by the bacillus communis coli, whilst the encysted form propagated from within is due to the bacillus of Eberth.

(4) Splenic abscesses and those formed in mesenteric lymph glands are caused by Eberth's bacillus, as also chronic latent affections of the bile ducts.

(5) Suppurative processes in the kidneys and liver are manifestations of pyemia; they are rarely isolated, and not often primary. The spleen also, in virtue of its function as chief collector of impurities from the circulation, is exposed to like accidents.

(6) In the respiratory apparatus, the infectious origin of bronchitis and congestion has not been proven; splenization is often excited by Eberth's bacillus; lobar pneumonia is always caused by the diplococcus; broncho-pneumonias are most commonly secondary infections due to streptococci, and occasionally to the germ of Friedlander. The possibility, however, of a broncho-pneumonia due to the typhoid germ seems

to have been demonstrated. As regards pleurisies, observations are too few to permit of a similar statement.

(7) In the nervous system meningitis only deserves special mention. The bacillus coli communis, diplococcus, bacillus typhosus, and pyogenic cocci seem equally concerned in its causation.

(8) Endocarditis and primary enteritis are perhaps due to Eberth's germ. Evidence is wanting in respect of phelebitis.

(9) Of glands, the testis and thyroid are most frequently attacked. The latter only lends itself to abscess formation when it is undergoing cystic degeneration. Eberth's bacillus commonly excites glandular inflammations.

(10) Finally, periosteum and bone are the tissues which the bacillus typhosus prefer to attack, especially in young subjects, and in virtue of their frequency osseous inflammations are the most important of all the complications of typhoid fever caused by this germ.

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## HYGIENE AND PUBLIC HEALTH

IN CHARGE OF

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### GAS ACCIDENTS.

Two destructive as well as instructive accidents, one in the city of Brooklyn and the other in New York, have occurred quite recently. In Brooklyn a small lad poked an ignited piece of wood through a hole in a sewer manhole cover, and the result was an immediate explosion of illuminating gas, which had escaped into the sewer from leaking gas mains. Fifty feet in length of a large sewer were thus blown up. Fortunately, however, no one was killed, though a number were injured. The incident illustrates how modern improvements, apparently of an innocent sort, may secretly create unseen and unsuspected dangers. The accident in New York terminated more fatally. Three policemen, accompanied by another man, entered a toilet house in Central Park to take a comfortable snooze in the night time. Through the sewer connections illuminating gas, leaking from mains into the sewer, passed up into the house in such quantity that three of the men were killed by breathing it, and the fourth was taken to a hospital nearly dead. This indicates a possible danger arising from leakage of gas in sewers that is rarely suspected by people in general—the escape into buildings with unguarded sewer connections of illuminating gas issuing from defects in city gas mains.

## PREVENTION OF TUBERCULOSIS.

At the meeting of the section of Hygiene, Climatology, and Demography of the Pan-American Medical Congress held in Washington, D.C., September 5, 6, 7, and 8, 1893, the following resolution, moved by Dr. P. H. Bryce, of Toronto, and seconded by Dr. Lawrence F. Flick, of Philadelphia, was carried :

Resolved, that in view of the fact that tuberculosis causes more deaths than any other disease, that it is now known to be communicable, especially to persons living in houses and shops with consumptives, that the attention of the national, state, and municipal authorities be directed to the necessity for controlling the dissemination of the disease: (1) By notification by physicians and landowners. (2) By the registration of the residences of the tubercularized. (3) By controlling their movements so far as possible. (4) By the establishment of hospitals and homes for the infected poor.

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LIFE-SAVING RESULTS OBTAINED THROUGH A STATE BOARD OF HEALTH.

The Michigan State Board of Health began its work in 1874. During the five years previous to that date the average annual death-rate from scarlet fever had been 4.85 in 10,000 inhabitants, but during the fourteen years from 1874 to 1887 the rate was only 2.45 in 10,000.

The rates for smallpox calculated for the same periods of time were 8.5 and 1.9 in 100,000.

Typhoid was also materially decreased, though not in so great a proportion.

The State Board have now enacted that tuberculosis shall be reported to the medical health department, and are entering on a crusade against that disease. There is little doubt that the results from preventive laws will be as beneficial in tuberculosis as in the case of scarlet fever, smallpox, and typhoid.

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NOTIFICATION OF TUBERCULOSIS.

The Philadelphia County Medical Society has appealed to the Board of Health of Philadelphia to place tuberculosis upon the list of contagious diseases to be reported to the board.

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CONSUMPTION IS A DISEASE DANGEROUS TO THE PUBLIC HEALTH.

The following resolution was adopted by the Michigan State Board of Health, September 30th, 1893 :

“Resolved, that hereafter consumption (and other diseases due to the bacillus tuberculosis) shall be included in the official list of ‘Diseases Dangerous to the Public Health,’ referred to in sections 1675 and

1676 Howell's statutes, requiring notice by householders and physicians to the local health officer as soon as such a disease is recognized."

(In this resolution the question of isolation of the patient is not mentioned. Its purpose is to secure to the local health authorities and to the State Board of Health information of the location of each case of this most dangerous disease, with the view of placing in the hands of the patient reliable information how to avoid giving the disease to others, and in the hands of those most endangered information how to avoid contracting this disease.—HENRY B. BAKER, Secretary.)

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#### HEART FAILURE.

"It is further provided that certificates of death giving 'heart failure' as the only cause of death shall not be deemed sufficient upon which to issue a burial or removal permit, and such certificate must be returned to the physician who made it for the proper correction and definition."—*Laws of Connecticut.*

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#### BACTERIOLOGICAL EXAMINATIONS MADE IN DIPHTHERIA BY THE HEALTH DEPARTMENT, NEW YORK CITY.

About a year and a half ago, Dr. Park made a series of observations on patients at the Willard Parker Hospital who were suffering from diphtheria, with reference to the presence of the Loeffler bacillus. It was shown that a considerable portion of the patients entering the hospital with supposed diphtheria were in reality not suffering from diphtheria at all, but from pseudo-diphtheria, accompanied with the production of a membrane. In the winter and early spring, when various throat affections were prevalent, more than 50 per cent. of the cases admitted were not diphtheria. The bacteriological examinations tallied closely with the clinical results.

As a result of these examinations, early in the present year the health department began to make systematic bacteriological examinations of all cases of diphtheria. Physicians obtained culture tubes from the department for making inoculations. After being inoculated, these are returned to the department for examination. Such examinations have been of considerable service in the United States, and might be utilized to advantage in Toronto.

## Editorials.

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### THE MEDICAL COLLEGES.

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NOTWITHSTANDING the fact that the new regulation of the Medical Council requiring students to take a five years' course before obtaining a license has come into force, we understand there is no serious falling off as to numbers in attendance at the various medical schools. As it is painfully evident now that there are too many doctors in the country, and that they are being manufactured with a rapidity quite disproportionate with the increase of population, the question, so often asked, how will they all make a living? becomes more pertinent from year to year. It happens, however, that such overproduction is not at all peculiar to the profession of medicine. The other professions are, perhaps, equally overcrowded. Law, especially, is full to overflowing, and the lawyers on the lower rungs are, in the words of the ordinary vernacular, "awfully hard up." Outside of the professions a somewhat similar condition of things exists in probably all occupations excepting one—that of farming. Our country wants more hard-working agriculturists, and less doctors, lawyers, merchants, etc.

However, young men do not seem inclined to stay on farms, notwithstanding any erudite lectures, but rush to cities; and many of them keep falling into medicine. Under such circumstances, it becomes the duty of the medical colleges, more than ever, to keep fully abreast with the times, in view of the fact that only the "fittest" are going to have much of a chance in the big struggle before them. It is only fair to say that the schools appear to appreciate these facts, and are putting forth their best efforts to satisfy the ever-increasing wants of the students.

Speaking for Toronto, we have every reason to believe that the students of to-day are better in almost every respect than those of a few years ago. They are, as a rule, worthy young men, thoroughly imbued with a strong desire to make the best possible use of their time during their undergraduate course. The facilities placed at their disposal, especially for practical work, are probably better than they were ever before in Canada. The laboratory and hospital teaching is admirable in all respects, and probably quite equal to any afforded to undergraduates in any part of the world.



LODGE PRACTICE.

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WE publish in this issue a communication referring to the vexed subject of lodge practice. A number of practitioners residing in Trenton, Ontario, have decided not to do what is ordinarily known as contract or lodge practice, and attached their names to a document containing pledges to that effect. This document contains the signatures of all the physicians in the town excepting one.

During the last few years this form of contract work has been growing, and has now assumed such proportions that it has called forth serious condemnation from various quarters. We may say without any hesitation that we object seriously to this class of work, but we regret exceedingly that we are unable to find any one who is able to furnish a satisfactory solution of the difficulties which surround the whole subject.

Lodge practice has been made legitimate, if not respectable, by custom. It is upheld by a powerful section of the lay press. Many of our young and worthy practitioners are practically making their living by it. Many of these freely acknowledge the evils connected with the system, but cannot afford to throw away their bread and butter.

The best way to abolish the practice is by united effort. The course of the physicians in Trenton is the correct one to pursue, but, unfortunately, one man refuses to come into the agreement. We know nothing of the merits of the case, nor the reasons which this practitioner may have; but his obstruction to the scheme is a serious matter, and may in time kill it altogether. If, however, all were agreed, and gave their pledges to do no lodge practice, it unfortunately happens that the ubiquitous lodge doctor is easily found, and readily imported. However, we shall watch the results in Trenton with interest, and hope that the physicians who are working in the right direction will be successful. If so, other towns and cities will probably follow their good example.

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BREACHES OF THE MEDICAL ACT.

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JUDGING from recent occurrences, it behooves medical practitioners in the Province of Ontario to look to it that in their attempts to give practice to medical students during those months of the year in which the schools are closed they do not expose those whom they intend to befriend to the danger of arraignment by the Medical Council and its detectives as breakers of the Medical Act. In a recent issue of the *Empire* newspaper, of this city, appears a paragraph, of which the follow-

ing is a part: "Detective Wasson is making matters warm for the medical men throughout the province who are given to faking. On Saturday he had these gentlemen before the magistrates and fined \$25 and costs for breaches of the Medical Act." Then follow the names of the individuals accused, with their addresses. The facts in one of the cases are these: A student in medicine of the University of Toronto who had completed his third year, supposing that it was necessary that he should spend a certain time in a doctor's office before completing his course, made application to a medical man in good standing and was accepted as his student, his duties being partly in the doctor's office and partly in his dispensary. Towards the close of the summer the doctor took advantage of the young man's presence to go off on a holiday. He paid the student's board bill for the time, and also told him that he would pay him something for his trouble. By some means the council's detective became aware of the facts, laid an information for breach of the Medical Act, and had the young man fined. Not content with causing the trouble attaching to such a procedure, the detective, or other official of the council, gave the newspapers (it appeared in three of them) the name and address of this unoffending student, and caused him to be published as a fakir.

Now, whilst we know nothing whatever of the other men mentioned as "faking," we do know that the one of whom we speak is a *bona fide* medical student, and one incapable of infringing upon the "spirit" of the Medical Act. Whether he has broken it in the letter, we do not know. A certain gentleman connected with the council, being spoken to with regard to this case, said that of course the council knew nothing of it, that the detective alone was responsible, that they were sorry it had happened, but that it could not be helped. Surely the council does not put itself in its detective's hands, and undertake to maintain his cause at all hazards?

The profession will certainly uphold the council in its efforts to suppress men who practise as students under cover of a regular practitioner's name, and who make no attempt to pass examinations, and who are not assistants in any proper sense of the term; but we are much mistaken if it will permit *bona fide* students to be harried by a subordinate official who has a money interest in their conviction as offenders against the law.

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### THE MEDICAL DINNERS.

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Opinions are divided as to the advisability of having annual dinners in our medical colleges. Some think that the students lose more time than they can afford in completing their organizations, and in making their arrangements; and that, consequently, it would be better, in the

interests of medical education, to have no dinner. We are inclined to sympathize with such views, especially in consideration of the fact that the courses of studies now imposed on students are exceedingly heavy.

However, the students in the past have been allowed to decide the matter, and the same rule is likely to prevail in the future. The marked success which has attended the dinners in Toronto this year makes doubters pause and consider carefully whether it is wise in the future to throw cold water on an institution which the custom of many years has made popular.

The dinner given by the students of the Medical Faculty of the University of Toronto at the Rossin House on the evening of December 6th was, in many respects, a remarkable one. Its success far surpassed anything of the kind that the writer has ever seen. The officers elected by and from the students left no stone unturned in their efforts to have everything right, and "the boys" supported them *all along the line*.

The Vice-Chancellor (who, by the way, was very enthusiastically received by the students) remarked privately, after the banquet, that it was the most orderly and successful gathering of university men he had ever attended. The Minister of Education said that he had never seen a dinner equal to it in certain respects—especially in regard to the marked sympathy that existed, without exception, between the speakers and audience. So far as we have been able to learn, these gentlemen, in the words given, simply voice the general consensus of opinion of all present. We tender hearty congratulations to the students—one and all.

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## THE MEDICAL FACULTY OF THE UNIVERSITY OF TORONTO.

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We regret exceedingly to notice lately a disposition on the part of some to drag the Medical Faculty of the University of Toronto into the arena of party politics. We have no desire nor intention to discuss any matters pertaining to "nepotism" or favoritism on the part of the Ontario Government, or any of its members; but we have a strong wish that there shall be no misapprehension among the graduates, or the public generally, about the methods of appointments to the medical teaching staff of that institution.

All appointments are recommended by the Senate of the university, and in no case, since the re-establishment of the faculty in 1887, has the government, or any member of it, shown the slightest inclination to interfere with that body in making its selection and recommendation. In the recent discussion two names have attained rather unpleasant prominence.

Dr. Primrose is said to have married the niece of the late Lady Mowat, and Dr. John Caven is said to be his father's son. While granting the correctness of these statements, we desire to say very decidedly that these men were appointed on their merits to their respective positions, and, since their appointment, have done their work with great efficiency.

With reference to salaries, we do not care at present to express any opinion, but we may briefly explain the facts. It was thought advisable by the Senate to appoint two professors in the departments of anatomy and pathology who were giving their whole time to their respective subjects, and would, in consequence, be precluded from continuing in active practice. It was decided, therefore, to give each of these professors the guaranteed salary of \$1,500. Other members of the teaching staff, including the lecturers and demonstrators, were given fixed salaries ranging from \$350 to \$500 each.

It was expected that after paying the necessary expenses and these fixed salaries there would be a residue sufficient to pay the remaining professors \$750 each. There was some serious mistake, however, as it turned out that there was only sufficient to pay them \$440 each. It is proposed that an amount sufficient to pay the balances shall be taken from the surplus fund; *i.e.*, the sum of the savings of the faculty during the first five years of its existence. This proposal, however, is likely to meet with some opposition. [The editor assumes full responsibility for this article, which has been written without the knowledge of Drs. Primrose and Caven].

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## Correspondence.

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### LODGE PRACTICE.

To the Editor of THE CANADIAN PRACTITIONER :

DEAR SIR,—The following members of the medical profession of the town of Trenton, Ont., viz., Drs. A. R. Macdonald, J. B. Moran, T. J. Moher, Geo. Acheson, Jas. Third, and J. A. Stevenson, met on October 27th last to discuss various matters of mutual interest; among others the question of "lodge practice." Dr. Macdonald was elected chairman and Dr. Acheson secretary of the meeting.

After considerable discussion, in which all present took part, the following resolution was moved by Dr. Stevenson, seconded by Dr. Moher, and carried *unanimously* :

"We, the undersigned physicians residing and practising in the town of Trenton, Ont., do hereby pledge our honor not to enter into any contract with any society, club, lodge, company, or corporation, to give medical attendance, advice, or medicine to the members thereof for any stated period at a fixed rate per member, or for a lump sum per annum; or to do what is commonly known as 'lodge doctoring,' or to give our professional services to such on any other terms than to the general public; providing that this agreement does not affect existing contracts terminating at the end of the current year."

At a subsequent meeting, Drs. J. T. McKenzie and H. H. Hawley were present, and supported both the spirit and letter of the resolution.

Under date of November 1st, 1893, the document was signed by the following gentlemen: A. R. Macdonald, A.B., M.D.; John A. Stevenson, M.D.; J. B. Moran, M.D.; J. T. McKenzie, M.D.; Thos. J. Moher, M.D.; Geo. Acheson, M.A., M.B.; H. H. Hawley, M.D., M.R.C.S.

One individual who was present at the first meeting, and signified his entire accord with what was being done, for reasons best known to himself, has since refused to sign. However, those who attached their signature have decided that the resolution is binding.

The medical profession in Trenton, therefore, is making an attempt to get rid of the evil of contract work, and we hope that throughout the province an earnest effort will be made to set this matter right.

It was further unanimously agreed not to make examinations for life insurance in any company or fraternal benefit society for a fee of less than two dollars.

I have been requested, as secretary, to forward this communication to your journal.

Yours respectfully,

Trenton, Ont., Nov. 21st, 1893.

GEO. ACHESON.

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## Book Reviews.

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SELECTED PAPERS IN GYNECOLOGY AND OBSTETRICS. By Dr. Berry Hart, M.D., F.R.C.P., etc., late president Edinburgh Obstetrical Society. Edinburgh and London: W. & A. K. Johnston, 1893.

Dr. Berry Hart is known to Canadians chiefly through the Manual of Gynecology published by himself and Dr. A. H. Barbour. As a rule, less is known about many of his most valuable lectures and papers which have been published in British medical journals, chiefly in the *Edinburgh Medical Journal*. Many of them are in advance of the times, while all will rank with the best

contributions to gynecology and obstetrics of this century. We are exceedingly glad that these papers are now published in concise form, and at a low price, and we can assure our readers that they ought not only to be read, but carefully studied, by all physicians engaged in general practice, including those especially who do obstetrical and gynecological work.

The papers published in this volume treat of subjects connected with the anatomy, physiology, and pathology of the female pelvis, and practical discussions on various subjects in obstetrics and gynecology. Among the contents we find his presidential address delivered before the Edinburgh Obstetrical Society, in which he takes as his text the work of Dr. Matthews Duncan. H. refers to the fact that Duncan imported physical conceptions into midwifery. This is well known in all parts of the world, and we are glad to say, in the same connection, that, in the class of scientific observers which he has left behind him, no figure stands out more prominently than that of Dr. Berry Hart. We hope this book will be widely read in Canada.

**A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY.** By W. S. Playfair, M.D., F.R.C.P., Professor of Obstetric Medicine in King's College, etc. Sixth American from the eighth English edition, with notes and additions. By Robert P. Harris, A.M., M.D., Honorary Fellow of the American Gynecological Society and the Obstetrical Society; corresponding member of the Obstetrical Society of Leipzig, etc. Philadelphia: Lea Brothers & Co., 1893.

Playfair's Midwifery is probably the most popular text-book on this subject that has appeared since Tyler Smith's time. Since its first publication in 1876 eight editions have passed through the press in Great Britain, and six in the United States. The present edition contains much that is new, although not quite so much as we should have liked to see.

In speaking of the anatomy of the pelvis, the author refers to Dr. Berry Hart's description of the structures forming the floor of the pelvis and the perineum. We desire to commend his adoption of Dr. Hart's views as to the anatomy, but regret that he has not gone a step further in the way of changing his views with reference to the mechanism of the head delivery. He says: "As the forehead descends, the sub-occipito-bregmatic, the sub-occipito-frontal, and the sub-occipito-mental diameters successively present; the occiput turns more and more upward in front of the pubes, and at last the face sweeps over the perineum and is born." We believe this is bad teaching, particularly when we consider its results in forceps delivery. In speaking of the use of the forceps he says: "As the head is about to emerge it is necessary to raise the handles towards the mother's abdomen." The result of this in actual practice is (frequently at least) to change a sub-occipito-bregmatic diameter to a sub-occipito-mental, in which case the chin cuts through the perineum like a knife. This has been noticed by many, but not generally understood. Goodell tells young practitioners to remove the blades as soon as the head reaches the outlet. As a matter of fact, one will do no harm in retaining the blades on the head if he manages his forceps properly, or if he uses a well-constructed axis-traction forceps according to the methods described by Milne Murray and others of the Edinburgh school.

In speaking of the induction of premature labor he describes the Champetier de Ribes' dilator which has been used so successfully in both the old and new world during the last two years ; but makes no mention of Pelzer's method by the intra-uterine injection of glycerine. In speaking of abnormal pregnancy he adds much that is new, especially with reference to tubal pregnancy ; but we think it would have been well if he had rewritten the whole chapter, because, as it now appears, there is too much evidence of patchwork, and a lack of symmetry which is unusual in the writings of this distinguished author.

The chapter on symphysiotomy contains the most recent views with reference to this resurrected operation. He still retains his long description of that practically obsolete operation known as laparo-elytrotomy or celio-elytrotomy. It is hardly worthy of the space which it occupies. We think a reference of a few lines would be all sufficient.

Some additions have been made to the chapter on puerperal septicemia, and some portions have been changed. Dr. Playfair is so clear in the expression of his views, and has such an eye to practical utility, that his description of most subjects is both charming and useful. This chapter on septicemia forms about the clearest and most pleasing reading on this subject that can be found in any text-book. Without approving of all his views, we can heartily recommend it to advanced students and young practitioners. We think that Dr. Playfair is quite right in attaching importance to sanitary defects as causes of puerperal disease. It may be that the disease arising from such causes may be, in some respect, yet to be discovered, different from typical septicemia ; yet we must ever keep in mind the gravity of sanitary defects, and, from a practical point of view, there is no harm in associating them with septicemia. He thinks it well to retain the term auto-genetic in connection with the causes, and makes sapremia synonymous with self-infection. While this may not be exactly correct, still it simplifies matters for the student, while the remarks on hetero-genetic will induce him to consider well the best methods of preventing infection.

**HERNIA : ITS PALLIATIVE AND RADICAL TREATMENT IN ADULTS, CHILDREN, AND INFANTS.** By Thos. H. Manley, A.M., M.D. Philadelphia : Medical Press Company.

This monograph is well worthy of attentive perusal by those who wish to obtain a clear idea of what has been and is being done in this important branch of surgery, and do not wish to secure this by the laborious perusal of larger monographs and original articles.

A useful chapter is that devoted to Congenital Hernia and the Hygiene of Infancy, in which the use of the regulation binder is discouraged, and attention drawn to the possible existence of stenosis of the urethra or atresia of the prepuce as etiological factors.

Speaking of the treatment of hernia by tentative measures, Dr. Manley advises that in the mild cases we try what correction of any existing digestive disturbance and the keeping of the child off its feet will do towards helping nature to effect a cure before resorting to a truss. In case a bronchitis or whooping cough develop, the prompt application of a truss is insisted upon.

Considerable prominence is given to the use of cocaine anesthesia in operations for strangulation. We are quite prepared to agree with the writer that in serious cases the risk from collapse, as well as that from post-operative pneumonia, will be less after cocaine anesthesia than if one of the pulmonary anesthetics had been employed, to say nothing of the advantage of escaping the vomiting which so constantly follows the taking of chloroform or ether. On the other hand, there are disadvantages connected with local anesthesia, especially in tedious operations.

We are quite in sympathy with the author when he says, in speaking of resection of the intestine in strangulation: "Indeed, for one to undertake an enterorrhaphy on a gangrenous hernia without ample experimentation upon the lower animal, and a thorough knowledge of the physiological anatomy of the intestine, its relation and appendages, is little short of criminality."

The work is written in good taste, the descriptions of the different operations are terse and simple, and, at the same time, with few exceptions, clear, and sufficiently full for the needs of the average practitioner.

There is a good summary of recent modifications (Championnière, McBurney, McEwan-Cockers, Bassini); but in giving just prominence to European and American authorities, Dr. Manley has overlooked the operation of his illustrious fellow-countryman, Halstead.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. A yearly report of the progress of the general sanitary sciences throughout the world. Edited by Charles E. Sajous, M.D., and seventy associated editors, etc. Vol. II., 1893. The F. A. Davis Company, publishers.

This publication is deservedly popular, and this year is at least up to the average in excellence. The principal subjects treated in Volume II. are: Diseases of the Brain, by Landon Carter Gray; Spinal Cord, by H. Obersteiner; Mental Diseases, by George H. Rohé; Diseases of the Uterus, Peritoneum, and Pelvic Connective Tissue, and Disorders of Menstruation, by Paul F. Mundi; Diseases of the Ovaries and Tubes, by E. E. Montgomery; Diseases of Vagina and External Genitals, by J. M. Baldy; Diseases of Pregnancy, by A. Lutand; Obstetrics and Puerperal Diseases; Diseases of the Newborn, by Andrew F. Currier; Dietetics and Gastro-Intestinal Disorders of Infancy, by Louis Starr; Growth and Age, by C. S. Minot; etc.

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## Medical Items.

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SIR JAMES GRANT, M.D., of Ottawa, was elected, December 7th, to represent his city in the Dominion Parliament.

DR. GEORGE ACHESON, who has been practising in Trenton for the past year, has removed to Galt, where he will practise in the future.

PROFESSOR JOHN TYNDALL, the eminent English scientist, died December 4th from an overdose of chloral, administered by mistake by his wife.



JOHN M. KEATING, M.D., LL.D., the distinguished medical author, formerly of Philadelphia, died at his late residence, Colorado Springs, November 18th.

NOTIFICATION OF TUBERCULOSIS.—The Philadelphia County Medical Society has appealed to the Board of Health, of Philadelphia, to place tuberculosis upon the list of contagious diseases to be reported to the Board.—*Medical Record*.

INTERNATIONAL MEDICAL CONGRESS.—A. Jacobi, M.D., 110 W. 34th street, New York, the chairman of the American National Committee of the International Medical Congress, which was postponed from September 24th on account of cholera prevailing in Italy, has been notified by the secretary general that the congress will be held at Rome from March 29th to April 5th, 1894. Instructions and documents relating to the journey, etc., are promised for the near future.

DR. JAMES W. EDGAR was appointed superintendent of the Hamilton City Hospital, November 13th, in the place of Dr. Olmsted. Dr. Edgar graduated in two faculties in the University of Toronto receiving the degree of B.A. in 1888 and the degree of M.B. in 1891. He then spent some time at the Johns Hopkins University, Baltimore, where he devoted his attention especially to pathology and bacteriology. His career thus far has been an honorable and successful one, and there is every reason to believe that he will prove a worthy successor to Dr. Olmsted.

TORONTO UNIVERSITY MEDICAL DINNER.—The following were the officers of the dinner given by the students of the Medical Faculty of the University of Toronto: Honorary member, Dr. I. H. Cameron; President, W. H. Alexander; 1st Vice-President, J. Sheahan; 2nd Vice-President, E. L. Roberts; Hon. Secretary, Frank W. Smith; Committee, 4th year, B. A. Campbell, D. J. Armour, B.A.; 3rd year, G. Simpson, J. S. Sloan, H. W. Miller; 2nd year, H. H. Ross, R. H. Somers, J. H. Miller; 1st year, D. McGillivray, G. H. Jackson, J. H. Mullin, J. A. Cummings.

THE PUBLIC RECOGNITION OF MEDICAL EMINENCE IN FRANCE.—In a memorial notice on Jean-Martin Charcot, published in the *Johns Hopkins Hospital Bulletin* for September, Professor Osler delicately alludes to the high public status of the physician in France as contrasted with other countries. He says: "A finely tempered individualism, prone though it be to excesses, is one of the glories of the French character. The *man* in France stands for more than in any other land; his worth and work are there more truly recognized, and there his relative position in the history of art, literature, or science is more justly gauged. Alone among the nations of the world, France honors duly the mighty dead of our profession. Not in the Pantheon only, but in statues, in the names of streets, and in the names of hospitals, one is constantly reminded in Paris that such men as Bichat, Laennec, Pinel, Trousseau, Broca, Bernard, and others have honorably served their day and generation. The memory of Charcot is secure in such a land, and with us, too, it will rest safely, cherished beside that of Laennec and Trousseau."—*New York Medical Journal*.