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Original Contributions.

THE MODERN TREATMENT OF TETANUS.

BY J. J. CASSIDY, M.D.

A SURGEON who had to treat a case of tetanus, say, ten or twelve years ago, found his operative measures rather restricted. Perfect cleanliness and even antiseptic dressings for an open wound; the removal of any foreign substance which might have entered the tissues at the time of the accident; an incision to remove an accumulation of pus; the stretching of the nerve leading to the wound, or possibly the amputation of the injured part would represent the surgical treatment.

In Ranney's "Lectures on Nervous Diseases, 1888," Hammond, who analyzed the results of treatment by drugs and surgical procedures in typical cases of tetanus, is quoted as saying, that "some of the cases apparently recover, rather in spite of drugs than by their direct aid. He thought that large doses of chloral, combined with large doses of bromide of potassium, give as much relief to the patient as any known treatment. The application of ice-bags to the spine, combined with the internal administration of half a grain of the extract of cannabis indica, every two hours, may be attended with good results." Ranney also advises that the patient should be placed in a darkened and quiet room, and every precaution should be taken to avoid a recurrence of the paroxysms. The patient may often be nourished by means of a tube passed behind the last molar tooth, and through the pharynx into the stomach, or may be put under the influence of an anesthetic and a tube introduced between the teeth, or, when that is impossible, through the nostril into the stomach.

Ever since the discovery of the microbe of tetanus by Nicolaier in 1884, experimental work has been done in the laboratories to ascertain the mode of attack which it pursues in the animal economy; and it appears that this microbe does not spread in the body, but elaborates, in the injured part, toxins, which it diffuses through the general circulation.

This explanation being accepted, we see the necessity of the primary cleansing of a soiled wound, and the still greater necessity of keeping it dry, in order to prevent the decomposition of the wound secretions, which render possible the extensive formation and subsequent absorption of toxins. This may also be the reason why amputation of the wounded part proves curative of tetanus by removing the seat of toxin formation; and it may also account for the curative results obtained in tetanus by hypodermic injections of phenol at the seat of injury.

At the regular meeting of the Society of Surgery of Paris, November 16th 1898 (*La Presse Medicale*), Dr. Hue, of Rouen, reported the case of a boy, aged eleven years, who developed tetanus six days after receiving a compound fracture of the wrist from a fall. An intra-cerebral injection of the anti-tetanic serum was given, but the patient died in twenty-four hours. Dr. Quenu reported two cases of intra-cerebral injection of anti-tetanic serum followed by death. Dr. Lucas-Championniere reported two cases of this treatment followed by death. In a third case an intra-cerebral injection had been given to a patient affected with incomplete tetanus for eight days; the patient recovered, but it was a case of chronic tetanus. Recently, he had been informed by a surgeon who often sees cases of tetanus in his practice, that of seven cases occurring in one year, four recovered spontaneously. Consequently, in appreciating the facts, it should not be forgotten that tetanus, especially in the chronic form, terminates in recovery, in spite of and influenced by treatment. Dr. Chaput reported a case of intra-cerebral injection, followed by death. Dr. Richelot reported a similar failure. Dr. Hartmann also reported a failure.

November 23rd, Dr. Reclus read to the same Surgical Society two observations sent on by Dr. Bousquet. In one, in spite of intra-cerebral injection of anti-tetanic serum and the amputation of a finger—the cause of infection—the patient died during the day. In the other case, treated by chloral and subcutaneous injections of serum, the patient recovered. Dr. Beurnier reported that in a case of tetanus he had punctured the spinal canal in the lumbar region, removing 40 grammes of cerebro-spinal fluid and injecting by the same route anti-tetanic serum, afterwards injecting 8 grammes of serum into the frontal lobes of the brain. The patient died, and the autopsy revealed no important facts.

November 30th, Dr. Michaux reported to the same Surgical Society a case occurring in the practice of Dr. Veslin, in which tetanus was treated by intra-cerebral injections of anti-tetanic serum, and unsuccessfully.

December 7th, Dr. H. Folet reported to the same Surgical Society the following case: A carter, as a result of crushing of the legs, developed tetanus. Dr. Folet removed a button of bone at the antero-internal angle of the parietal bones, and injected on each side 5 cc. of the anti-tetanic serum to a depth of 5 cc. into each hemisphere of the patient's brain. The patient died during the night.

In the *Lancet*, September 24th, 1898, David Sime reported a case of tetanus occurring in a young man who, July 2nd, fell down on the ground in a farm-yard and injured the skin over the right hypothenar eminence. The wound was washed and healed rapidly. Eleven days later, July 13th, symptoms of tetanus appeared. He received, by subcutaneous injection, 10 cc. of anti-tetanic serum, July 20th and 21st, and July 22nd, he presented a scarlatiniform rash with fever. The general phenomena quieted down after July 24th, and August 1st he recovered. In reference to this case it must be remarked, that Sime's patient took large doses of chloral, bromide of potassium and cannabis indica. In such a case it is difficult to prove the value of the anti-tetanic serum. Sime thinks, however, that the anti-tetanic serum arrested the steady advance of the tetanic poison. He concludes, that this serum ought to be injected as soon as the diagnosis of tetanus is made, and also, that it should be employed preventively every time that a wound is soiled with earth, especially the earth of a farm-yard, or manure, etc.

In *Le Progrès Medical*, December 3rd, 1898, Dr. H. de Rothschild reports a case of tetanus in a man of forty, who, July 23th, had been wounded in the forearm by the bursting of a gun. Not wishing to amputate, Dr. de Rothschild had the wound carefully bathed with bichloride solution, July 30th. To counteract the tetanic poison he employed (a) bleeding, which eliminates a certain quantity of the toxin; (b) injections of Hayem's artificial serum to cleanse the blood; (c) injections of Roux's anti-tetanic serum to neutralize the toxin in the circulation; (d) chloral and bromide of potassium, to diminish the crethism of the nervous centres; (e) every second day, to overcome secondary infections, the arm was bathed in a solution of permanganate of potash. This treatment seems to be logical, for, as de Rothschild says: (1) The tetanic bacillus is localized in the wound, where it elaborates a toxin; (2) in order that the anerobic bacillus of Nicolaier may cause tetanus, it must be associated with other microbes; (3) the toxin of this bacillus diffuses itself through the blood; (4) the toxin, which it generates, attacks the nerve centres and causes an crethism, which sometimes becomes continuous. The patient recovered, a favorable turn having occurred on the night of August 14th.

In *Riforma Medica*, No. 62, p. 734, 1896, Dr. Sbrana reports a case of tetanus cured by the Baccelli treatment. An Arab, twenty-five years of age, while carrying a load of earth, struck the great toe of his left foot against a rock, causing a wound. By the

advice of a comrade, he wrapped some cobweb around the wounded part and then covered it with earth. Two or three days afterwards, finding the wound painful, he removed the cobweb and noticed that the wound had an unhealthy look. Again taking unskilled advice, he washed the wound with urine and covered it with lime. Twelve days after the accident he had difficulty in walking, and noticed that the injured toe and the rest of the foot were full of little punctures. These symptoms increased, and three days after a regular attack of traumatic tetanus supervened. When Dr. Sbrana saw the patient he observed the following phenomena: Complete trismus, risus sardoniacus, dysphagia, difficulty in breathing and in speaking, opisthotonos and complete rigidity of the muscles of the back and extremities. That evening Dr. Sbrana gave a hypodermic injection of phenic acid, 2 per cent., at the root of the injured toe, and next day he resected the necrosed phalanx. He continued to give three injections of phenic acid per diem. Three days after the operation the temperature returned to the normal (it had reached 38° C.—101.5° F.), and the symptoms of tetanus, especially the trismus, were favorably modified; the patient could open his mouth so that the forefinger could be placed between the teeth. After sixteen days' treatment the patient was cured. Dr. Sbrana remarked that, in this case, as well as the three others he had treated, the infection came from the ground, and that the agent that transmitted the microbe was evidently the cobweb. With regard to the injections of phenol, one cannot in this particular case neglect to note the curative influence of the rapid resection of the injured phalanx.

Dr. G. Ziengo, in *Gazzetta degli Ospedali et delle Cliniche*, October 9th, 1898, reports a case of tetanus following a complicated fracture in a man fifty-two years of age, and four days later tetanus was developed. Eight days after the first symptoms appeared Baccelli's treatment was begun, large doses of a 3 per cent. solution of phenol in distilled water being injected. As no symptoms of intolerance appeared, the daily dose of phenol was raised from 30 to 50 centigrammes and kept at that figure. With the exception of a little albuminuria no symptoms of poisoning were observed. In all 978 centigrammes of phenol were injected hypodermically during twenty-seven days. At first a daily dose of from 4 to 6 centigrammes of morphine was associated with the phenol, to relieve the insomnia and hyperesthesia which accompany the tetanic disease; but the morphine was soon laid aside, as the phenol appeared to answer all the indications. About the third day there was a slight amelioration of the patient's condition; nine days later the trismus disappeared, and on the twenty-third day the cure might be considered as certain.

This is the thirty-second case of tetanus treated by Baccelli's method of hypodermic injections of phenol. One death occurred out of the thirty-two cases, which is a grand result when one remembers that the general mortality of patients affected with tetanus is 70 per cent.

Dillon Carberry, writing in the *Therapeutic Gazette*, says: "The use of phenic acid in cases of tetanus, devised by Baccelli some years ago, has many upholders here (Rome). Dr. Ascoli, at a late meeting of the Royal Academy of Medicine, made an astonishing comparison between the relative values of the serum of Behring and Tizzoni, and the cure by phenic acid. The cases so far reported give the following results:

Treatment by Tizzoni's serum, died, 8 in 40;

Treatment by No. 1 Behring serum, died, 4 in 40;

Treatment by No. 2 Behring serum, died, 2 in 9;

Treatment by phenic acid, died, 1 in 32,

leaving a considerable balance in favor of the carbolic treatment.

There is a great tolerance for the drug in tetanus; the use of large doses is indicated. For subcutaneous injection a 3 per cent. solution is used; the dose varies from one-half to ten grains. The maximum dose for the twenty-four hours seems to be forty-five grains. Local baths may also be used with advantage.

SHOULD THE DEFORMITY IN POTT'S DISEASE BE FORCIBLY CORRECTED?*

BY H. P. H. GALLOWAY, M.D.,

Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon Toronto Western Hospital.

No subject in surgery has excited more widespread interest during the past two years than the forcible reduction of the deformity in Pott's disease. So much has been said and written on the subject and so many times has the operation been performed in various parts of the world that experiences, facts and opinions are now available in sufficient abundance to enable each surgeon to decide at least what his own attitude in relation to this operation shall be until its true status has been more definitely determined by observation of the ultimate results in cases already operated upon.

The history of forcible reduction of spinal deformity is full of interest, but cannot be more than referred to here. In the writings of Hippocrates, 500 B.C., forcible reduction of spinal deformity is spoken of as an old practice, and several methods of performing it are described; while in 1647, Ambrose Paré described a procedure which is surprisingly similar to the method employed by Calot. Although the revival of this practice is inseparably associated with the name of Calot, priority in the modern use of this method belongs to Chipault.

Outside of France, Robert Jones, of Liverpool, was one of the first to adopt Calot's method. He thus describes the method of performing it:

* Read before the Toronto Medical Society, January 12th, 1899.

"Having determined to forcibly reduce the deformity in a case of Pott's disease, it is necessary to carefully prepare our patient, more especially if the plaster corset recommended by Calot be applied. For two or three days previously the patient should be dieted with a view to supplying nourishment and avoiding waste concretions. The bowels should be thoroughly well opened, so that if necessary abdominal pressure may be applied by the hand without risk; and for the same reason the bladder should be empty. It is hardly necessary to state that the skin should be deodorized and disinfected, and that the head should be shaved. In order to avoid insect life the scalp should be treated for a sufficient time. An assistant should now prepare the traction bandage. This consists of two linen bands a yard long. The centre of one is placed round the occiput, the centre of the other round the chin. They meet beneath the ear on each side, and at this point are firmly fixed with safety-pins. The free ends are knotted, and an assistant takes a loop in each hand, or more conveniently, the loops may be attached to a crossbar of wood or other material. The linen bands must be of equal length, otherwise the head is not pulled in line with the spine. They should be fully a yard long in order that the assistant who controls the head may be well out of the way of the anesthetist. This traction is quite essential, as one cannot act upon the spine by manual grasp upon the head for any length of time. In addition to the assistant who controls the head, six others are needed: two for the arms, two for the legs, one for chloroform, and one to directly assist the operating surgeon. Chloroform having been administered, at a given signal traction must be exercised. If the patient be small he need not be supported by chest or pelvic rack. A child of two and a half years requires a pull of 220 kilos before the neck is dislocated. Traction, therefore, measured if necessary by the dynamometer, should be well within that strength. Roughly speaking, five men, pulling with a force that soon tires, rarely exceed 70 kilos, so that the danger of dislocation is very slight. All, however, should pull together, and there should be no jerk. This applies more especially to the assistant who controls the head. Simple traction will reduce the deformity in a large number of cases, particularly in curvatures situated high up. If it does not, direct pressure must be applied to the hump. An assistant places his hand upon the abdomen with sufficient power to feel the bodies of vertebrae, and it is to anticipate this pressure that I have advised a careful diet and an empty bowel. This pressure on the vertebrae from the front is a check upon the surgeon who presses directly upon the hump, and who uses sufficient force to reduce the deformity, if he can do so with safety. In a large number of cases the pressure required is very great, and sometimes the reduction is accompanied by crackling heard all over the theatre. In very early curves only is reduction absolutely complete—by this I mean that no trace of thickening remains. In the more mature deformities the curve is

reduced by fully three-fourths its bulk, either in one, two or three sittings. I think it is prudent in the case of very pronounced curves to reduce them in two or three stages, rather than at one sitting. This is more especially the case if the effort be accompanied by much crackling, or if there be much resistance.

The plaster corset of Calot is applied in the following manner: The surgeon places an assistant to keep up pressure on the lately prominent vertebra. This pressure is to be maintained during the application and drying of the plaster corset. Strips of wadding are placed to interlace one another at the level of deformity; then the chest, abdomen and head are covered by cotton-wadding bandages to the thickness of about an inch. Plaster bandages are then rolled round and so arranged as to make powerful compression upon the deformity, extension to the spine being kept up during this time. The bandages should be soaked in hot water to ensure their drying rapidly. In order to complete the cervical and cranial part of the apparatus one can leave the child in the horizontal position, but it is simpler to effect whilst the child is suspended with the head erect on the ordinary apparatus. The child, therefore, hangs by suspension strips, which I have described, whilst the surgeon rolls the plaster bandages around the neck and head, only leaving the face exposed from the eyebrows to the chin."

Various modifications of the original operation above described have been proposed and adopted, but the mechanical principle underlying all is essentially the same: while traction and counter-traction are made on the spine pressure is exerted upon the hump until it yields and the deformity is diminished or obliterated; some retentive dressing or appliance is then put on. It is not matter for wonder that the first reports of this operation were received by most surgeons with incredulity if not positive scepticism, for strong theoretical objections can be urged against it. In spinal caries the deformity is an incident, not the essential feature, an incident moreover of Nature's method of effecting a cure. The gap left anterior to the kyphos by the tearing apart of the collapsed vertebrae might not fill in with bone, and if this proved to be true the operation would be worse than useless. The risks of causing paralysis, of rupturing existing abscesses or helping to create new ones, of injuring the large blood-vessels lying upon the front of the spine, of increasing the activity of existing disease or lighting it up afresh when quiescent, and the danger of causing a dissemination of tubercle could not be forgotten.

Experience has demonstrated, however, that at least some of these theoretical dangers have little or no real foundation; for forcible correction of the deformity in Pott's disease has now been done hundreds of times, and observers are pretty well agreed that the operation is usually easy of performance and practically free from immediate danger.

This being the case it would seem that the operation has much to recommend it. For esthetic reasons alone it is desirable to cure

deformity in any part of the body, and in none more than in the spine; for the unsightly hump and the dwarfed stature which result from severe Pott's disease are probably more humiliating than anyone except the patients themselves realize. But still more important is the preservation of the normal shape and capacity of the thoracic and abdominal cavities with their important contents, for notwithstanding Nature's marvellous power of adaptation to changed conditions, it is impossible not to feel that the cramped and distorted trunk, which results from extensive caries of the dorsal or lumbar spine, places the important viscera of the thorax and abdomen at a serious disadvantage. Nor is this all, for it has been fully demonstrated by Goldthwait, Calot and others, that the paralysis which is not infrequently a serious complication of Pott's disease, is often immediately improved by the correction of the deformity.

Having endeavored to view impartially the advantages claimed for this method of treatment, let us now examine the difficulties, doubts and dangers that attend it. And the first point to be noted is that in carefully following the literature of this subject one cannot fail to be struck with the fact that other surgeons have been much less fortunate and are not nearly as enthusiastic as the optimistic Calot. At the International Medical Congress in 1897, Calot, of Berck-sur-mer, reported 204 cases. Of these, two children died within a few days after the operation, and three others within three or four months. Of the latter, one died of broncho-pneumonia, the other two from meningitis. In one case paralysis supervened a fortnight after the operation. Of eight paralyzed at the time of operation, six recovered from the paralysis within ten days, but the others remained unrelieved. Jonnesco reported three deaths in thirteen reductions—one death was caused by chloroform, one from broncho-pneumonia after eight days, and in one case the autopsy, forty-eight hours after the operation, failed to reveal the cause of death. Vulpins reported a death within forty-eight hours of the operation. Sherman, of San Francisco, has done the operation three times. Two of the patients died within a few months, and the other was, at the time of writing, in a hopeless condition, having since the operation developed a tremendous abscess which was discharging freely in the neck. Menard reported one death from the rupture of an abscess. Lorenz reports the production of paralysis by forcible reduction. Malherbe reports the fracture of a spine. Jones reports two deaths in fifty-two operations. Peckham reports a case in which for two or three days following reduction there was shock so severe that the patient seemed at the point of death.

In the light of these various experiences we are not disposed to wonder at M. Monad's opinion that Calot's statistics are too good and consequently carry little weight.

Further, these published results by different observers show that a number of the patients operated upon die within a period

varying from a few days to three or four months; also, that as an immediate result of the operation we may have death from chloroform, paralysis, rupture of abscess, fracture of the spine and dangerous shock—an array of possible accidents sufficient to at least indicate the need of caution in approaching this operation. Still it must be admitted that the risk is relatively small, and we would be quite justified in assuming it in properly selected cases if we could feel assured that an ultimate good recovery without deformity, or with greatly diminished deformity, might reasonably be expected.

But will such recovery take place? We have no satisfactory evidence that it will, while many of us have the gravest doubt of its probability. These misgivings will be readily understood if the conditions present after the forcible reduction are calmly considered. The hump of Pott's disease exists because the bodies of one or more vertebrae in front of it have collapsed and disappeared, partly or entirely, as a result of the disease. By the operation of forcible reduction the remnants of these diseased vertebrae are violently separated, and a gap is left into which more or less hemorrhage will occur or which may possibly fill up with the contents of a ruptured abscess. Tuberculous material which Nature had encapsulated, is set free, and fresh surfaces are opened up for absorption. The best compensation which Nature could make for the disappearance of the vertebral bodies was to cement the remnants solidly together, but by our operation of forcible reduction we undo her conservative work, create a gap, and leave the affected bones to rest merely on their articular and transverse processes. As has been shown, however, the risk of harm resulting directly from the traumatism is surprisingly small. Moreover, it is quite possible that the intercurrent pneumonia which has been the cause of death in some of the cases two or three months after reduction, might have occurred independently of the operation. And the same may be said of the tuberculous meningitis which has sometimes followed, for this affection occasionally occurs in connection with tuberculosis of bones and joints, aside altogether from operative interference; consequently the danger of disseminating tubercle by the operation should not be allowed undue weight. If, therefore, we knew that the gap created by the reduction would fill in with new bone and leave the spine straight and strong, much good would be gained, and we would not hesitate to advise this plan of treatment in suitable cases. But we have as yet no reliable evidence that such genesis of new bone will take place, and our knowledge of the behavior of tuberculous does not lead us to expect it.

"The immediate results . . . are so strikingly satisfactory that the ultimate condition of the patients is apt to be overlooked, and in the first enthusiasm over the operation the exact pathology of the disease seems to have been forgotten. Certain it is that the deformity can be reduced in a large number of cases, but the

fact remains that the cause of the deformity is the destruction of a considerable portion of one or more vertebræ as the result of tubercular disease. It is also well known that bone repair in this disease takes place much more slowly and less completely than in the other forms of bone disease. Also, it is well known that the reparative process in the bone can take place only after the tubercular granulations have been absorbed, a matter always involving many months or years; and what is also an important factor, is that, as *the bone-forming elements have been so largely destroyed by the disease, the amount of new bone formed must be slight and wholly inadequate to fill the large gap that would be left after the treatment of the severe cases.* Claims have been made that bone repair has taken place very rapidly after the operation, and Calot and Ducroquet both present radiographs which are intended to prove this. The reproductions from these, however, are very far from satisfying, and one must be decidedly doubtful when it is realized that *all of the pathological material which it has been possible to study shows little, if any, attempt at the formation of new bone.* As tuberculosis of the spine is not essentially dissimilar from tuberculosis of the other bones and joints, and as the pathological condition found in the specimens which have been examined is entirely similar to the condition found after like treatment in other joints, it is probable and reasonable to suppose that the process of bone repair has not been radically changed by mere forcible straightening of the spine." (The italics in the above quotation are mine.)

As bearing upon this question of repair following the operation, a brief but very valuable paper has been contributed by Murray, of Liverpool. He reports two cases in which death occurred two and three months respectively after the operation, in both of which an autopsy was made. Very clear photographic illustrations of the *post-mortem* appearances accompany the paper. In the first place the spine was forcibly straightened on September 17th, and the child died on November 7th of pneumonia. The autopsy showed that "the disease had involved three of the dorsal vertebræ, completely destroying one of them. There was not the slightest evidence of repair, but the gap formed by the forcible straightening had resolved itself into a false joint bounded by caseous and diseased tissue." In the second case the spine was forcibly straightened on August 20th, and the child died on November 15th from tuberculous meningitis. After death the spine was found to be very "wobbly" at the seat of the disease. "Though the child had been kept lying since the operation—that is, for three months—there was not the least evidence of repair, nor any attempt at the filling-in of the gap." In a paper read before the American Orthopedic Association last May, Ridlon, of Chicago, reported that he had attempted forcible reduction in Pott's disease sixteen times. He says: "In no case do I think I have obtained reliable bony solidification at the point of disease."

Even Calot evidently expects trouble in many cases in the way of insufficient consolidation of the spine after correction, and also from recurrence of the deformity. For in a discussion at a meeting of the Clinical Society of London on November 12th, 1897, Calot said that "if, after the end of four or five months, the consolidation of the spine was unsatisfactory, it was desirable to perform an operation to promote ankylosis. This was done by denuding the laminae at the parts where they were in contact, applying the periosteum over the site of the proposed junction." He further stated that if recurrence took place he should advise artificial union; "indeed he was almost disposed to recommend this procedure as a routine practice, as a prophylactic."

Further evidence of the lack of post-operative repair of the gap created by forcible straightening is afforded by the testimony of various observers to the marked tendency of the deformity to relapse. Chipault, the predecessor of Calot in the operation of forcible reduction, says there are many relapses, and that unless the apophyses are wired together, practically all will relapse.

Goldthwait says: "Unless the after-treatment is carried on most patiently and intelligently for years afterward, certain it is that the ultimate results will be as disappointing as the first results have been gratifying, and that relapse will be the rule. Already relapses have been reported by Pean, Phocas Tansch, Lorenz and Vincent; and many others must follow, if a few months' after-treatment, as Calot would have us believe, is all that is necessary to accomplish a cure."

In the discussion on this subject, at the last meeting of the American Orthopedic Association, "Dr. A. M. Phelps said that he had forcibly straightened a number of cases of Pott's disease. He believed that every one of them would relapse except those operated upon very early, before a large kyphos had formed." It is hardly necessary to add that if bony repair of the gap created by the operation had occurred, these relapses would not be reported. But even if we could feel assured that early relapse would not take place, we must look for a later return of deformity in a large number of cases operated upon in childhood. It is a matter of common observation that the deformity of Pott's disease often goes on increasing slowly during the growing period, even though the activity of the disease has long ceased. In explanation of this fact Freiberg quotes Hoffa: "It must be assumed that in these cases the inflammatory process has attacked those points from which the growth of the vertebral bodies proceeds, that these latter have lost their ability to grow in comparison with the uninjured vertebral arches, and that on account of the relatively more rapid growth of arches and spinous processes, the size of the gibbus must increase until the close of the growing period. We shall be as little able to prevent the increase of the gibbus under these circumstances as to prevent the abnormal position of a hand in the presence of unequal growth of radius and ulna."

Jones, of Liverpool, who has reported seventy cases, seems to share the general fear that the gap may fail to fill in. With abundant testimony before us of the proneness of the deformity to relapse, confronted by the fact that even if relapse in the ordinary sense did not occur many of the patients operated upon in childhood must still present some deformity by the time adult life shall have been reached, with no pathological proof that repair of the gap has taken place after the operation, and with at least two *post-mortem* specimens, which show that such repair had not even commenced two and three months respectively after the operation—and in one of these specimens the gap was “bounded by caseous and diseased tissue,” a condition incompatible with commencing repair—it must be admitted that the doubt pervading the minds of many surgeons regarding the ultimate result in cases treated by this method is not without foundation. To compare this operation, as has been done, to forcible correction of the deformity produced by tubercular disease of the hip or knee, is to try to make diverging lines appear parallel. The anatomy and physiology of the spine are so different from the anatomy and physiology of the hip and knee that forcible correction of the deformity in Pott's disease is not analogous to forcible correction of the deformity in disease of the hip-joint or the knee, except perhaps in regard to the danger of causing dissemination of tubercle by operative intervention, which is probably about equal in all three situations. Beset on the one hand with the enthusiastic endorsement of this operation by Calot and Redard, and encountering on the other hand the distrust of distinguished surgeons who believe that this “improved” method of dealing with Pott's disease is a very doubtful innovation, what is our duty when face to face with the deformity? Personally it has for some months past been perfectly clear to me what course should be pursued, although for a time I was in doubt. I do not hesitate to express the opinion that it is quite unjustifiable to go on doing this operation until the ultimate result in a considerable number of the cases already treated in this way shall have been clearly determined. Hundreds of cases have already been operated upon, but years must elapse before we can be sure whether the operation was a blessing or an unfortunate interference which left the patient worse than before. Until clinical evidence and *post-mortem* findings have demonstrated that satisfactory repair will follow forcible reduction of the deformity, the usefulness of the operation should be held *sub judice*, and we should simply halt, refusing to perform the operation, but neither condemning nor approving it.

Two possible exceptions to this rule should be considered. First, when a case of Pott's disease is complicated by paralysis, which has failed to yield to a fair trial of the usual methods of treatment, the spine should be straightened. Of course it is understood that even under such circumstances any existing contra-indication, such, for example, as the location of the disease in the cervical region,

should be duly considered. There is such unanimity of testimony regarding the favorable effect of this operation on the paralysis of Pott's disease, that it may be quite justifiable to take chances on producing a wobbly spine in the hope of avoiding the ill-results of a complication which may prove to be disastrous if unrelieved. Second: Very early in the disease, where the destruction of bone has been slight and the deformity is consequently small, it may be justifiable to straighten the spine as the first step of the treatment. Even in these early cases, however, it will be found exceedingly difficult, and frequently impossible, to maintain the correction. In regard to the method of performance, Goldthwait's modification of Calot's method appears to the writer much more reasonable than the original operation. The patient is slung in a frame in such a manner that the spine is hyper-extended and the weight of the body is borne chiefly upon the kyphos. Traction is used if required, but frequently the weight of the body suffices to secure a sufficient degree of correction. While still in position on the apparatus the plaster jacket is applied. As a rule no anesthetic is required.

In conclusion it may be said that the tendency toward simplification of the operation, as it is performed by Calot, is evidence that his method of doing it be distrusted, or has been shown by experience to be unnecessarily radical. And while the high expectations raised in some minds by Calot's optimistic reports are doomed to almost certain disappointment, it is generally felt that the outcome of the world-wide discussion of this subject will be some, perhaps considerable, improvement in our management of Pott's disease. Summary:

1. Sufficient experience with the operation of forcible reduction of the deformity in Pott's disease has been accumulated to enable each surgeon to decide whether the procedure is or is not at present justifiable.

2. The theoretical dangers of the operation have not received much support in practice, enough, however, to demand that they be taken into account.

3. Calot reports better results and appears to be more hopeful than any one else.

4. We would be justified in performing the operation if we could be sure of ultimate good recovery without deformity or with greatly diminished deformity.

5. Satisfactory evidence that the ultimate result will be good is wanting, while the *post-mortem* findings quoted are anything but reassuring.

6. Our knowledge of the behavior of tuberculous bone does not make us hopeful regarding the filling in of the gap created by the operation, and the admitted tendency of the deformity to relapse after correction increases doubt on this point.

7. Surgeons should cease performing the operation, and wait patiently until the ultimate results in a considerable number of the

cases already treated have been determined; not condemning the operation in the meantime, but simply holding it *sub judice*.

8. As an exception to the conclusion just stated, cases complicated by paralysis which cannot be cured by other means, should, in the absence of contra-indications, be submitted to forcible reduction, as there is abundant evidence to show that the operation usually cures or improves the paralysis promptly. Very early cases with slight deformity may perhaps also be attempted.

9. The tendency to simplification of the original operation shows distrust for Calot's method, or points to its being unnecessarily radical. The method described by Goldthwait is simpler and more reasonable.

10. As a result of the world-wide discussion of this subject some advance in the treatment of Pott's disease may be anticipated:

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REFLEXES IN PSYCHIATRY.*

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WITHIN the last quarter of a century a large number of the medical profession have taken to so-called specialties. It is doubtful if these subdivisions of practical medicine and surgery are, as a whole, an unmixed good. These specialists are, as a rule, located

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in cities and towns, for, of necessity, the village medical practitioner must yet have a general knowledge of all branches of medicine. As far as diagnosis and surgical operations are concerned in special lines of abnormal conditions, the specialist has that knowledge and those modern appliances necessary to successful treatment. As far as these are concerned, specialists are advantageous to the patients when they do not include too much. Nothing now seems to be left to the general practitioner to try his skill on except the os calcis and the umbilical region.

The result, however, is rivalries and controversy in respect to the merits of the different special branches, in relation to general health and disease.

Any one who takes the trouble to read the reports and monographs of these alienists, gynecologists, ophthalmologists, neurologists, laryngologists, otologists, rectum and bladder-ologists, and so on *ad infinitum*, will notice with what assurance these circumscribed practitioners claim successful treatment of the diseased organ of which they know the most, and as being necessary to ensure generally bodily and mental health. Unconsciously such, of necessity, become one-sided men. The personal equation becomes paramount, and the one domain of their investigation is the all-important object of research and treatment. This is especially true of the young enthusiast, and usually he at last develops into a fanatic and faddist. There is a number of foundation errors which lead to his lopsidedness. The first of these is forgetting that a specialty, to be successful, must be based on a thorough knowledge of the whole human organism in health and disease.

Some one has well said that those deficient in the general knowledge of medicine, although thorough in one particular line of medical research, are like the men who would study comets only, and ignore all the planets in the sky, and call themselves astronomers. Their occupation would amount to nothing in the end, however learnedly they might discourse of comets.

The second error is that such people attach altogether too much importance to reflex action in disease. The moment a practitioner drills into his own head that the locality he cultivates is the cause of a legion of bodily diseases in distant parts, he is apt to overlook the real cause of many diseases, and by omission is apt to do more harm than by commission. Such do not storm the fortress, but are sputtering away their time at one of the outworks. They are applying remedies to the branches of a tree while the morbid disease may be in the trunk or roots. Allied to this is a third error which lies in a misunderstanding, or rather a misapplication of the term "reflex action." Descartes, the French philosopher, was possibly the first to use the term "reflex," and gave as an example the involuntary closing of the eyelids when approached by an object.

A more extensive study of reflexes was made by such as Marshall Hall, Grainger, Johannes, Muller, and others. The

fundamental law is well known, which consists of the effect of stimuli to certain sensitive parts which are responded to by muscular contraction in circumscribed areas, because of this nerve excitation. We see its operation in certain spasmodic affections and various motor disturbances. A true reflex circle must have its distinct neural structures, viz., an efferent nerve, a focal nerve; cell or cells, and an afferent nerve. These form a reflex arc, and act along physiological lines. It is these physiological facts misunderstood which have led to many errors of specialists in disease, and which may have nothing to do with that law of reflexes in disease. We have instead what the German calls "associated sensations," but not neurotic reflexes, so called. The influence which may begin *ab extra*, may end, and mostly does end, in some part of the great nerve centres, with no direct outward stimulation, so cannot in any sense be called a reflex.

In fact, as pathological investigation goes on, many diseases found in organs were only made manifest in these parts, and the nerve centres as causes of these manifestations were found to be the real seats of abnormal conditions. The list of such diseases would be very extensive, such as atonic dyspepsia, ovarian neuralgia, the various convulsions, epilepsy, exophthalmic goitre, angina pectoris, asthma, diabetes, Addison's disease, pseudo-hypertrophic, muscular paralysis, diphtheritic paralysis, and so-called inflammatory rheumatism and such like.

It is evident that such a disease has been treated locally, not only without benefit but to the injury of the nerve centres in which lies the primary cause. We know how many women have been unsexed to their moral and mental undoing by unwarranted extirpation of the ovaries when no disease existed beyond neuralgic conditions. An intermittent heart was often diagnosed as having been organic disease when the sympathetic nerve to the stomach was the root of the trouble. So-called inflammatory rheumatism in the joints is still classed as such, when we know that the heat, swelling, pain and redness will in a few hours depart to some distant joints and repeat the trouble, and this fugitive or metastatic trouble will fly from joint to joint. No rational explanation can be given of these migrations, except we take into account the nerve influence on the blood circulation. The sympathetic control of the calibre of the blood vessels, and the action of the trophic centres are never taken into account, and yet we know how much these vaso-controlling ganglia influence the human system in health and disease. The sympathetic system is almost everywhere in the body, and not only in intimate relation with the cerebo-spinal system, but controls and stimulates the glandular, visceral, and vascular systems. These facts are largely lost sight of in specialized medical and surgical practice. This is strikingly seen in gynecological treatment, especially when it is claimed that uterine diseases nearly always control mental conditions. The minor abnormalities are magnified into important factors in producing insanity, and thus

effects are said to ante-date causes. The mistake lies in the supposition that these minor influences can be casual or adequately sympathetic. A slight tenderness of the groin at periodic times is usually magnified; a tilting backward or forward or laterally, or a scarcely perceptible prolapsus of the uterus, are solemnly entered in the history of such cases as exciting and primary causes of serious brain lesion.

Maiden and married pass through the ordeal of the manipulation of these raiders of feminine reserve and modesty. They seem after a time to become possessed with a dominant idea that these organs are the malign influence which excite and incite more than half the diseases which female flesh is heir to. Such spoilers are not charged with pruriency. It is not presumed that fees enter into their motives, yet the results are the same, and morally as well as socially are deplorable if not immoral. No man of fine feeling can think of these invaders in respect to his mother or wife or sister or daughter without having a chill of repulsion. The many honorable physicians at the head of this specialty who would readily endorse these words of mine could do much in checking this indecent tendency which so generally exists. They have only to minimize the exaggerated diagnosis and relegate the magnified portends to the quack prophets of the day. A righteous revulsion of professional feeling, not to speak of public indignation, is setting in against a needed and special work, when kept within reasonable bounds. Our mothers and grandmothers knew little of these matters, and it would be well for the present generation were less professional officiousness exercised in the direction indicated. Surgical gynecology has an important function to discharge when imperatively demanded, but the knife deftly used in guillotine or extirpation on hypothesis is bad practice.

A large number of our insane women came to our asylum duly certified to as having become afflicted because of ovarian or uterine diseases. Subsequent events show that no such cause exists, or that the disease is in such an innocuous form as to give no good reason for the extirpation; for the caustics applied to tumefactions of merely reflex conditions. The wonderful mechanical appliances with which small abnormalities are punished startle us with their frequency and variety. The day of reaction is coming as clinical knowledge is beginning to make manifest that many so-called local diseases are merely the fruits of pathological changes in some of the great nerve centres. Why then use our therapeutics and our mechanical ingenuity on the branches of the tree when it is the roots which are in distress? My experience shows that not more than 3½ per cent. of female patients are afflicted in this way in any serious form of derangement, yet at least 40 per cent. are certified to having become insane through this cause. It need scarcely be said this is a most extraordinary statement. Those statements are in accordance with our experience; as also is the fact that when insanity sets in many subacute diseases

of the uterus disappear; such as dysmenorrhea, the various forms of metritis, subacute ovaritis and catarrhal conditions. Insanity seems to be antagonistic to their active existence. These alternatives are also true in respect to other diseases, especially those of the lungs of the insane. In this connection it may not be out of place to show the inconsistency of removing ovaries which are only functionally affected. Extirpation means a premature menopause, yet the time of the natural menopause is always understood to be a critical epoch in a woman's life. How much more intense must such a change be when brought about by the surgeon's knife in the young or in middle life? No wonder that such a radical interference partially lowers bodily and mental activity and is a prolific cause of insanity instead of a cure. Our institution has a number of such cases.

To artificially produce a condition which is naturally said to be conducive to insanity is certainly a strange procedure to bring about relief or to act as a prophylactic if the usually accepted opinions are correct. The fact is, the change of life as well as puerperal crises have no special danger in the production of mental disorders unless there exists a predisposition thereto either through hereditary tendency or because of general asthenia, and in which condition the uterus is only one factor, and consequently not the *cause* but an *occasion* of the outbreak.

No one denies that some uterine diseases need surgical treatment, such as uterine fibromata. Some are painful and some are burdensome. We adopt relief by treatment at the earliest possible time. Those thus afflicted are few. We object, however, to the wholesale conclusion that at least 50 or 60 per cent. of our female insane need gynecological treatment. This shows, doubtless, a speculo-mania which could not be found outside an insane asylum. No wonder eminent gynecologists, such as Skene, the late Goodell, Lusk and even Lawson Tait, raise a warning voice against such extravagant statements and such wholesale manipulations.

Such meddlesomeness has also a moral side. These raids upon the genitals of wives and maidens, spinsters and widows are unwarranted unless there are serious symptoms to suspect much mischief in these parts. The present race of women are as hardy, as a whole, as were those of a previous generation, yet the womanhood of the past had little trouble with the child-bearing organs. Except as mothers bearing children they knew little about them. Now, as the French say, "The uterus is the woman." This mania has spread to such an extent that women not manipulated are in the minority, and in some of the United States law has stepped in between the physician and patient to protect the latter.

I cannot better conclude than by quoting the wise saying of Dr. L. Bremer, of St. Louis. His opportunities have been very extensive especially among the insane, yet he vigorously attacks the utero-mania which afflicts so many of the medical profession to the hurt of their unfortunate victims. His statements are: "Without

denying the possibility of nervous and even mental derangements arising in women from comparatively trivial diseased conditions of the genital organs, such as catarrh, cervical laceration or stenosis, uterine displacements or ovarian disorder, I agree with those who believe that the frequency of such cases is vastly overestimated. The prevailing practice of treating slight local affections with a view of bettering or curing such morbid conditions as hysteria, neurasthenia and allied diseases of the nervous system are generally injurious.

"I go the length of saying that gynecological treatment, unless imperatively demanded of the unmarried female, is a crime. Its effect upon the mind of the chaste young woman is that of defloration. Her moral tone, her manner of judging things are altered and lowered with the consciousness of there being even a shadow of a flaw on her virginity. These subtle qualities disappear, which constitute the charm of girlish innocence. Her mind is polluted. She is unfit for marriage, and all this because the doctor happens to hold the opinion that by manipulating the uterus he can cure neurosis."

Skene says: "In this age of aggressive surgery, operations have been made to remove the ovaries in the hope of relieving a variety of mental and nervous affections. It is evident, however, that about as many women go mad because of the ovaries having been removed as there are who are cured of reflex mental and nervous diseases by their removal."

The eminent Dr. Albutt well says: "How intimately this organ, or this system, is associated with the nervous system is well known; but unfortunately, the weight of our knowledge all leans one way—it leans to a curious and busy search for every local ill which may arise in the female pelvis, while blind oblivion scatters the poppy over every outer evil which in its turn might hurt the uterus; nay, more, a resolute prejudice would deny that in the women any distress can arise which owes not its origin to these mischievous parts.

"The uterus has its maladies of local causation, its maladies of nervous causation, and its maladies of mixed causation, as other organs have; and to assume, as is constantly assumed, that all uterine neuroses, or even all general neurosis in women, are due to coarse changes in the womb itself, is as foolish as to suppose that the stomach can never be the seat of pain, except it be the seat of some local affection, or that the face can never be the seat of tic-douloureux unless there be decayed teeth in the jaw. All mucous membranes, indeed, seem readily to betray nervous suffering by relaxation or changed secretion; and I have no doubt whatever that a very large number of uterine disorders, which are elevated to the place and name of diseases of the uterine system, are but manifestations of neurosis. All neuroses are more common in women than in men, such as facial neuralgia and the pseudo-angina. Not only so, but in the uterus they possess one organ the more,

with its own rich nervous connections, and its own chapter of added diseases and neuroses; but to say that all these maladies are due primarily to uterine vagaries is to talk wide of all analogies.

"A neuralgic woman seems to be peculiarly unfortunate. However bitter and repeated may be her visceral neuralgias, she is either told she is hysterical or that it is all uterus. In the first place she is comparatively fortunate, for she is only slighted, in the second case she is entangled in the net of the gynecologist, who finds her uterus, like her nose, is a little on one side; or again, like that organ, is running a little, or it is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem, or perched upon a prop, or is painted with carbolic acid every week in the year except during the long vacation when the gynecologist is grouse shooting, or salmon catching, or leading the fashion in the Upper Engadine. Her mind thus fastened to a more or less nasty mystery becomes newly apprehensive and physically introspective, and the morbid chains are riveted more strongly than ever. Arraign the uterus, and you fix in the woman the arrow of hypochondria, it may be, for life."—(Visceral Neurosis.)

Dr. C. H. Hughes, editor of the *Alienist and Neurologist*, says: "The gynescic diseases of women are largely neural. They are also, it is obvious, even from this cursory glance at her organism and its inter-related cerebro-spinal and ganglionic system, both neural and psycho-neural, as well as simply gynescic.

"If a man is a bundle of nerves, as he has been defined, woman is a similar bundle, plus a uterus and its appendages, and this uterus is in itself a bundle of nerves. If we study woman and her special diseases, in this light we shall better comprehend her than if we study only her diseases as limited to the uterus alone. And woman will better understand herself if she is taught that there is much more of her than the uterus and its appendages to become diseased. The womb disease crank, among our patients, who is the bane alike of enlightened neurology and gynecology, will then disappear."

It is not to be forgotten that in many there is no etiological connection between insanity and those diseased conditions. The co-existence of diseases is one thing, and their relation to one another as cause and effect is another. Local diseases are often contemporaneous without being necessarily related to one another except in a remote degree as parts of the same organism. Herein comes fallacies in tabulating cases and recoveries as consequent upon local treatment or operations when there is no proof that such is the case. We know it to be a fact that a large number afflicted with uterine or ovarian disease, organic or functional, recover from insanity, although the abnormal conditions may not be ameliorated or cured. Many of such diseases existed long before insanity came on and were not casual in any way. Not only so, but many cases of recorded recovery are only those of remissions in periodic insanity or those who have got well from eccentric shock or septic

excitation, not because of but in spite of all interference, operative or otherwise. It is impossible then to procure authentic or absolute data as to the benefits or otherwise, of treatment or operations on the pelvic organs except by collecting a large number of cases and comparing them with an equal number of cases not thus claimed by those who see a panacea in their petty local interference. "All grists go to their mill."

Undue prominence is given to minor uterine diseases. I am sure that an importance is attached to many of them as factors in producing insanity which is not warranted. This wholesale invasion has a moral connected with it which may finally lead to what we should be able to resist on ethical and rational ground, namely, legislative interference to some degree. Eminent gynecologists are wisely raising a warning in the right direction of conservative treatment. The statistics of the death roll in respect to those thus treated, who have perished by the use of the scalpel, are doubtless correct. No objection can be raised in regard to the correctness of the mortuary records.

PULMONARY TUBERCULOSIS.

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PROGNOSIS—TREATMENT.

"Of the many complicated problems presented to the physician, the prognosis of pulmonary tuberculosis is one of the most difficult. An accurate prognosis would involve full knowledge of the parasite and its host, as well as of their environments. At present little is known concerning variations in the virulence of the tubercle bacillus as it occurs in the body of man, and still less information is forthcoming as to the histo-chemical and biological conditions of the human organism which retard or favor the development and activity of the parasite" (*Percy Kidd*).

The above quotation tersely expresses the character of the problem to be solved in making a prognosis, and the difficulties in the way thereof. Here, as well as in most other diseases, the wide range of the knowledge and experience gained in general practice is of inestimable value to the physician and places him many "laps" ahead of the new hot-house exotic—the specialist—and, *en passant*, the proper dissemination of this virile fact is the best antidote to this "latter-day" craze for specialism. The tuberculous patient has to put up a fight for life, and every condition or influence that militates against health must be considered in the question of prognosis. It is very obvious then that there should be made a very full investigation into the family history, to ascertain hereditary tendencies, a careful scrutiny of the climatic, social, domestic and personal environments, a very thorough examination

of the conditions and functions of all the other organs of the body, with special reference to upper air passages, digestive, vascular, hepatic and renal systems. If all of these are, or can be brought up to a normal standard, then we have to consider the lung trouble *per se*. The trend here is toward destruction of tissue, either by a process of softening or hardening—caseation or formation of fibroid tissue. The extent to which destruction has gone, and the rapidity with which new areas are being invaded, mark the progress of the disease. In the miliary form the distribution of tubercle is usually very extensive, hence the prognosis is extremely unfavorable; these cases ending fatally either within a few days or in two or three months. The acute caseous variety—either the lobar type, where the infiltration is confined to one or more lobes, or the bronchopneumonic, with its widely disseminated lesions—is usually characterized by marked inflammatory action, and a rapidly fatal course. Unless some remission of the acute symptoms take place, these patients do not live many months. In all those cases, where there is a tendency toward the formation of fibroid tissue, the process is so markedly chronic that the doctor is very liable to die before his patient, hence it is seldom prudent to set any time limit under these circumstances.

The above types form but a very small percentage of tuberculous cases. It is with the disease in its usually more or less chronic forms that the perplexing problems in prognosis arise, especially when such patients seek advice in regard to change of climate. Presuming that, apart from the local lesions, every other factor pertaining to the health of the patient has been thoroughly investigated, we have then to ascertain the character and extent of the lung trouble. It follows, of course, that the value of the prognosis depends practically on the accuracy of the diagnosis.

Unfavorable Conditions.—Acute character of the symptoms, rapid extension, temperature variations, *e.g.*, continuously above normal or sub-normal, markedly intermittent or remittent, or the inverted type into morning exacerbations and evening remissions, early caseous changes and formation of cavities, intractable cough, quantity and purulent character of sputa, presence of numerous bacilli in sputum, troublesome dyspnea and exhausting hemorrhages.

Favorable Conditions.—These are practically the very antithesis of the above, and are the ones on which we chiefly base our opinion when consulted in regard to a change of climate. They are: Mild onset, localization of lesions, through incapsulation of tubercular foci or by deposit of fibroid tissue, slight temperature variations, diminution in number and entire absence of bacilli for long periods from the sputum, healthy and vigorous condition of one lung, absence of much dyspnea, troublesome cough or debilitating hemorrhages.

The consideration of a change of climate would involve the following factors, in addition to those just enumerated: Nature

and extent of any complications, *e.g.*, cerebral, laryngeal, pleural, digestive, vascular or renal, mental and physical vigor, ability to enjoy and taste for outdoor life, amount of wealth, or ability and possibility of earning a livelihood. However, judging from personal experience, whilst attending a patient last winter, at one of the popular health resorts of California, physicians do not seem to have any particular standard of health in the selection of the cases they send to these resorts—some with scarcely a perceptible lesion, others with both lungs extensively involved; one well nourished, another a mere skeleton; one vigorous, the other has to be taken off the train on a stretcher. The only standard in sight was a financial one—nearly all came in Pullman cars, and were able to pay for any attendance required.

TREATMENT.

Prophylactic.—The discovery of the bacillus, and especially of its contagious character, make prophylaxis of paramount importance. Whether we accept the degree of contagiousness as being small or great matters but little, since as we do not know what constitutes immunity we are justified in assuming that any person may acquire the disease from exposure.

Some sage has said that in order to train up a child properly we must begin with the grandmother; so a great help in eradicating tuberculosis would be to begin with the mother during the ante-natal stage of the grandparents that are to be. The need of such great care during the course of pregnancy with tuberculosis, and the subsequent management of both mother and child, naturally suggest the question of the propriety of marriage of those already infected with this disease, or whose physical condition or family history predisposes that way. If all such persons could be content with the hallucinations of courtship until the prospective bride had passed the menopause, it would be infinitely better, both for the individuals and for the race. When infection takes place after marriage, the question of a separation until the child-bearing period is over is one that may possibly engage the attention of those intrusted with State medicine, as pregnancy is so often followed with disastrous consequences to tuberculous subjects and their progeny.

However these questions may be disposed of in the future, the work at hand is to give the tuberculous patient during pregnancy the best aid we can devise—sunny, well-ventilated rooms, outdoor life, wholesome food, daily bath, and to teach her the importance of striving to attain a high standard of health, both in the interests of herself and child. The infant should not be suckled by its mother, but be given to a healthy wet-nurse, or brought up on a diet of boiled milk, cream, soups, broths, eggs, and, where possible, in the dry, bracing air of the country. These children should be under medical surveillance during childhood and adolescence,

since unsanitary homes, improper or unwholesome food, immoral habits, excessive study, diseases incident to childhood, especially those involving the upper air passages, make them very vulnerable subjects to tubercular infection.

In the adult, treatment demands, owing to the contagious character of the disease, the employment of the most effective sanitary measures, especially for the destruction of the sputa. Vessels containing a strong solution of carbolic acid or other antiseptic should be provided; all the articles used at meal-time washed in water containing soda, and afterwards in boiling water; all soiled handkerchiefs, linen and underwear boiled in a separate vessel; the hands of the patient, and especially those of the attendant, should be washed in a disinfectant solution after exposure to infection.

The bedroom and living rooms deserve careful attention. Unfortunately for the prevention of tuberculosis, we who live in the "foremost files of time" show very poor judgment, from a sanitary standpoint, in furnishing our homes. In order to display actual or imaginary wealth, we cover our floors with carpets, that readily absorb all the infectious moisture that adheres to the soles of boots or shoes, retain it until dry, and then on sweeping give it up to be diffused over upholstered furniture, bedding, and the endless varieties of trappings about windows and doors. We thus foolishly, if not culpably, go on infecting and killing each other with this disease, because in house-furnishing reason and intelligence alike seem unable to supplant the wanton whims of fashion or the desire for the ostentatious display of wealth. However, the physician, in justice to his patient, must brush these vanities aside and arrange one or two rooms to meet the most exacting sanitary requirements—painted floors and walls, and the use of furnishings that can be kept thoroughly aseptic, proper ventilation both day and night, with abundance of sunshine.

In regard to food, its quantity, character and preparation are of vital importance. It would be of immense value to future generations if our school boards were progressive enough to make such provision as would enable every school girl to acquire sufficient knowledge of food products and skill in the preparation of them to meet the demands of a healthy dietary. However, until this millennium dawns the physician must arrogate some of the functions of a *chef*, and devise a dietary rich and varied, made up of milk, cream, meats, fats, oils, puddings and breadstuffs of all kinds, and liquors. The following "bill of fare" in vogue at health resorts may serve as a specimen:

"Breakfast, 7 to 8 a.m., coffee, cocoa, tea, bread and butter and milk; 10 a.m., milk, bread and butter, broth, eggs, wine; 1 p.m., soup and three other courses, two of meat and vegetables, pudding, wine; 4 p.m., same as early breakfast; 7 p.m., two courses, one hot and one cold, with vegetables, wine; 9 p.m., milk and cognac." Or: "Breakfast, 8 a.m., coffee, bread and butter, ham, tongue, sausage, milk; 1 p.m., two hot courses, meat, fish, potatoes,

green vegetables, sauces and butter, pastry, fruit, ice cream, coffee, milk; 7 p.m., one hot course, meat as at dinner, and one cold, as at breakfast."

The proper clothing to wear is another very essential consideration. Avoid "chest preservers," mufflers for mouth, etc., and order woollen underwear—light in summer and sufficiently heavy in cold weather to preserve comfortable warmth. Clothing must be changed frequently—better an entire change at bedtime.

Baths daily—sponge, shower, or full baths—in water as cool or cold as can be borne or followed with a healthy reaction, and accompanied with proper massage, friction, or rubbing, are very valuable adjuncts. These subjects, too, should be instructed to drink as much water as possible, thereby supplying more moisture to the lung tissue and aiding beneficially the functions of all the secretory and excretory organs.

DOES OUR KNOWLEDGE OF THE PATHOLOGICAL CHANGES IN OPERATION IN SPINAL CURVATURE ILLUMINATE THE PATH OF ITS RATIONAL TREATMENT?

BY THOMAS H. MANLEY, M.D., NEW YORK.

THE writer is led on to this leading question by a rather warm correspondence, lately published in the *Journal of the American Medical Association*, November 12th, 1898, in which the distinguished surgeon, Dr. A. M. Phelps, makes a sharp assault on some of the premises taken by an editorial writer in a previous issue, who made a sweeping denunciation against mechanical supports in "applying a brace to a child suffering from spinal curvature."

Professor Phelps, in an ardent rejoinder, refutes the allegations of the author, who would cast aside all braces; denying that muscular inertia, paralysis or atrophy plays any part in the pathology of spinal curvature; but in his enthusiastic defence of the corset he goes to unwarrantable extremes, and alleges that "the muscles do not hold the spine erect, . . . muscles only balance the spine"; and, he adds in italics, that "no amount of gymnastics can, or ever has, diminished the curve due to bone changes in lateral curvature of the spine; gymnastics and massage are of little use, or positively harmful in such cases."

Now, let it be remembered that the type of spinal curvature under consideration is not *Pott's disease* or tubercular disorganization. When Phelps says, "There are many factors in the etiology of spinal curvature, which the profession know little about," we entirely agree with him; and had he gone further and added, that of the majority of them we know *nothing*, he would have been

nearer correct. It therefore follows, that our treatment must be rather on empirical lines than on scientific principles.

But there are some things that we *do know* in the causation, which will shed some light on therapeutical indications. *First*, we know that the "high hip," the sloping shoulder and prominent shoulder-blade—so-called spinal curvature—are hereditary, largely; more common, by all odds, in the female growing child, usually becoming prominent at puberty; from the twelfth to the fourteenth year; trauma nor occupation cutting no figure whatever in causation. It would be no stretch of language to stamp the majority of these curvatures as natural, or depending on normal conditions in the processes of growth and development.

In order to make this postulate clear there are some few things in connection with bodily development which it may be well to review here.

First, the great mechanical disadvantages of the human biped, in consequence of the *vertical* attitude of the spine. The infant spine is nearly straight, and *all* the spines of adults are curved. The arching and bowing of the spine commence when the child takes the upright posture. The sagging first begins in the cervical segment, when the weight of the head induces an anterior convexity. The combined weight of the head, upper extremities and upper thorax press the central dorsal vertebræ outward, with a resulting convexity. The solid, quite immobile, lumbar segment slightly yields and prevents an inward inclination. Sometimes these normal curves are considerably exaggerated, which is as much a deviation as though it were lateral; but no notice is given to this in the works on surgery, *because it does not induce a deformity*. It therefore follows, if we would endeavor to *prevent* a so-called, and properly so-called, idiopathic, lateral curvature, we should discourage female infants from taking their legs and walking until late—until they are at least a year or fifteen months old.

Now comes the controversial side of the problem. As the female child approaches puberty, should we, as a routine custom and prophylactic expedient, apply a *spinal brace*, or what is known in the trade as a stays or corset? Every properly adjusted corset is a *spinal support*.

Now, Professor Phelps' contention is, that once lateral curvature is well defined, we may massage or douche them forever; that curve is to remain. My own experience is entirely in accord with this position, with this qualification, viz., if comfortable corseting is possible, the tendency is for the child to outgrow the gross deformity, before the bones are well and permanently set, say, at twenty-five years, though traces of it are sure to remain.

But, with a knowledge of a tendency of curvature, or rachidian deviation, why not take time by the forelock and habitually recommend the wearing of corsets by young girls *before* these weakened areas of the spine and the dorsal segment show signs of sagging?

In the *Virginia Medical Monthly* for September 9th, 1898, the writer, in a contribution, entitled "The Corset, its Use and Abuse; with Lacing and Tight-Lacing," has anticipated this question, and attempted to demonstrate that the properly adjusted corset is a most useful and necessary garment, always serving as an auxiliary support to the spine and as an agent of great potency in the prevention of spinal distortions.

As to whether in these deformities the major defect is in the osseous blocks of the rachidian-chain, in the tendons, muscles or ligaments, is really of little consequence in treatment. All must confess that there is defective support; the pyramid tends to topple; we have a "leaning tower." Our course of treatment is clear enough: *prevent* it, in its early evolutionary stages; *arrest* it, and if *permanent* provide for the mechanical deficiency.

A FALSE NOTE FROM THE BALTIMORE ORIOLE!

BY ALBERT S. ASHMEAD, M.D., NEW YORK.

IN the American Public Health Association (Ottawa, Ont., September 27th to 30th, 1898) there was only one discordant note in the leper discussion; this note came from Dr. George H. Rohé. This gentleman, who is a former health officer of Baltimore, and now President of the American Health Association, deprecated the "sanitary shriekings and hysterics" caused by the ravages and threats of leprosy. He did not deny that the ravages had taken place (and if he had it would have been of very little importance); he did not deny that the threats had been considered as terrible by the leprologists of the Berlin Conference. But he thinks—he, who never, as far as I know, lived in a leper country, and who is not considered as a leprologist, who is not even a dermatologist, which, in my opinion, would be nothing, but which some people consider as giving a man a certain right to speak about leprosy, that he, *knowing nothing of these things* (the italics are mine, of course), *would just as soon treat a case of leprosy in a general hospital as any other disease* (the italics are his). I certainly congratulate Dr. Rohé on the strength of his nerves, but think that he ought to consider the comparative weakness of other people in this respect. I do not think that hysterics caused by a disease which has killed millions, and which plunges the individuals attacked into the very depths of human misery and despair, must be deprecated. I should say, "*Homo sum, nil humani alienum a me puto,*" and bear and excuse the hysterics.

It is less dangerous, says this gentleman, than syphilis, however. As he is not a leprologist, as he is not even a dermatologist, how dare he affirm what a number of the most eminent leprologists and dermatologists have denied, at the conference

of Berlin, without giving any reasons; without showing that his experience, his experiments had convinced him of the truth of what he so positively asserts. It seems it is only his distaste for hysterics, or for a "scene," as the English say, that makes him laugh at the voice of warning coming from more competent men than he is. How can he affirm that a disease which has been before the whole world declared incurable (by men who know more of leprosy than he, whose opinion is received with respect by all nations, while nobody would ever expect to receive useful instruction in this matter from him), of which the manner of transmission has been declared unknown, whose period of incubation is exceedingly uncertain—that such a disease is less dangerous than syphilis? Syphilis, at any rate, is curable; its mode of transmission is as well known as anything in medicine can be; there is no doubt about its period of incubation; we know everything about its development and its different stages; we can very well protect ourselves against transmission of it, while we do not know (except by isolation, which does not commend itself to the mind of Dr. Rohé) any means of warding off the attack of leprosy. Of course, hospitalism is very well for the sick, but the conference of Berlin thought there was a little more to do, in fact infinitely more to do, that is, to protect the healthy, to stop the progress, the spreading of the disease.

If Dr. Rohé does not understand what the duty of those who know something about leprosy is, and what is their principal aim, he need only try to find out the meaning of what Hausen told the Germans: "Wait fifteen years; keep your lepers isolated, and, as lepers do not live long, you will have done with leprosy." It is true that Norway does not take all her lepers into private asylums for fifteen years; otherwise, as the Norwegians have legislated about it for over forty years, they would be quite free of the scourge. But then they prefer to isolate only one-third of their lepers, and the rest—the Lord and the North American republic will take care of them!

THE RADICAL CURE OF ENCEPHALOCELE.

BY FREDERICK WINNETT, M.D., M.R.C.S. ENG.,

Surgeon Outdoor Department Toronto General Hospital, and Victoria Hospital for Sick Children.

THE child, Norman M., aged two months, was noticed at birth to have a tumor in the lower part of the occipital region. It has increased to twice its original size, but does not seem to affect the child injuriously. Circumference of skull measures 15 inches. The tumor, as seen in accompanying photograph (No. 1), is somewhat pedunculated, measuring at the base $6\frac{1}{2}$ inches, and at its largest

part $8\frac{1}{2}$ inches. It is not tense, fluctuates, is slightly translucent, and can be partly emptied. When the child cries it becomes tense and darker in color. In the centre can be felt a small, hard body, leading to its base. The opening in the skull seems small and indistinct.



No. 1. Norman M., aged 2 months.



No. 2. Norman M., aged 4 months.

September 21st, I operated at the General Hospital. The child was nursed before being chloroformed. In making the lateral flaps the skin was found closely adherent to the membranes.



No. 3. Tumor containing cerebellum.

The neck of the sac was cleared, and found to be about three-quarters of an inch in diameter. It was ligated with Staffordshire knot and removed. The flaps were sutured and the wound dressed in the usual way. The recovery was uneventful, and photograph

No. 2 shows the child as at present, enjoying perfect health. Inco-ordination is not evident.

Examination showed the tumor to contain, along with considerable fluid, the entire cerebellum, including the vermiform processes, as seen in the photograph of the same. It is atrophied and weighs 26 grains.

The successful issue of this operation is peculiarly interesting in view of the hopelessness of palliative or radical treatment, as judged by many authorities. Lawrence, who collected seventy-nine cases receiving palliative treatment only, found six reached adult life. Hutchinson says nine out of every ten operations are fatal. In Treve's "System of Surgery" we find: "In the case of encephalocle operation is not advisable." Owen, in "Surgical Diseases of Children," says: "If it were suspected that some cerebral tissue were in the cyst no treatment would be advisable."

THE OUTBREAK OF SMALL-POX IN KENT COUNTY, ONT.

BY W. F. BRYANS, M.D., TORONTO.

DURING October and November, 1898, there were four cases of small-pox in Camden Township, Kent County.

The first case occurred Oct. 3rd, two weeks after first exposure and one week after last exposure. The disease had been contracted in Detroit from a family supposed to have chicken-pox. There were ten persons living together in a farm-house where this first case occurred. Of these ten persons, five had not been vaccinated, and of the five four contracted the disease. A baby, eight months old, escaped, though not vaccinated. The five who had been vaccinated five years previously showed one good cicatrix, and these escaped. The four cases occurred respectively on Oct. 3rd, 19th, 22nd and 24th.

Incubation stage: First case, 7 to 14 days; second case, 16 days; third case, 19 days; fourth case, 21 days. The first case was semi-confluent and very severe. The temperature was characteristic in each of the first three cases. The fourth case was very mild. In second case the highest temperature was 105½ before the rash appeared. The nausea was very marked in each case and lasted forty-eight hours. All made a good recovery. The ten persons lived throughout the outbreak in a seven-roomed house. The sick were only separated from the well by a partition. There was no attempt at separating the sick and well from Oct. 3rd to Oct. 14th. The disease was known to be small-pox on Oct. 9th.

The rash was confluent on the head and face in first case. Pox could be seen under nails of fingers and toes. Some occurred also in mouth and pharynx. In second and third cases the rash

appeared first on lower third of legs, and was more marked in this situation than on any other part of body.

Treatment.—No special treatment was adopted. Liq. am. acet. was used freely at the beginning. Six ounces of whiskey were used for the four cases, and during pustular stage the patient was freely dusted with a mixture of equal parts of finely powdered carbo ligni, ac. boric and acetanilid. This mixture seemed to be useful as a deodorizer and also relieved the soreness of the raw surfaces. The ventilation was such that the patients were practically treated in the open air.

The diagnosis was very easy in the first three cases, there being present the characteristic temperature, marked nausea and the umbilication of the vesicles. In the fourth case the nausea was marked; there was very little elevation of temperature, and the umbilication of the vesicles could not be detected, except, perhaps, in one vesicle.

A YEAR'S INQUESTS IN LONDON.—The report for 1897 of Mr. A. Spencer, Chief Officer of the Public Control Department of the London County Council, was issued during the first week of September last, and contained some interesting information concerning the inquests held in the city during 1897. It appears that 7,428 coroners' inquests were held in London during the year, which is at the rate of 1.6 per 1,000 of the estimated population. Of these, 4,477 were on the bodies of males, 2,948 were on the bodies of females, two were on skeletons (presumably of children) in which the sex could not be determined, and one was on treasure-trove, for the coroners in England hold investigations into the ownership of buried treasure, silver, coins, etc., with the same formalities with which they inquire into the causes of sudden death. At forty-three of the inquests a verdict of wilful murder was returned, while the undermentioned verdicts were recorded in other cases: natural causes, 3,616; accidental death, 2,405; neglect and exposure, 518; suicide while insane, 431, and found drowned, 164. The balance of verdicts, among other returns, included 21 cases of manslaughter and 9 of justifiable homicide, while in 56 cases the cause of death was unascertainable. The cases of neglect and exposure were very generally complicated with alcoholic excess; while it is noticeable that all the suicides were supposed to be mad, the old verdict of *felo de se* not having been once returned. Nearly one-quarter, *i.e.*, over 500, of the inquests where the verdict of "death from accident" was returned were held upon infants found suffocated in bed with their parents, and this in spite of the repeated requests from coroners that all infants should be provided with some sort of cot. It is generally believed by the medical profession in London that a verdict of murder would fit many of these cases, but it is almost impossible to bring the crime home to the parents.

Ophthalmology and Otology.

... IN CHARGE OF ...

JAMES M. MACCALLUM, M.D.

OCULAR TROUBLES IN DIABETES.

DIANOUX gives the impressions which twenty-three years of practice have left: As regards the lens loss of transparency may occur, leading surely to cataract, soft or hard, according to the patient's age. The soft cataract develops exclusively in young people attacked with acute or pancreatic diabetes, and becomes complete in a few months. Rapid cataract in an adolescent should make us suspect diabetes. The grave form of diabetes has not the same action on the lens in the adult, in his experience. For senile cataract in the diabetic operation may be perfectly successful; whereas operation for diabetic soft cataract is frequently followed seven or eight days later by pulmonary apoplexy and death; and in any case the patient rarely survives twelve or fifteen months.—*British Med. Jour.*

J. M. M.

PROTARGOL IN PURULENT OPHTHALMIA IN INFANTS.

IN the cases treated with these newer salts of silver there has been less ulceration of the cornea, with iris-protrusion and imprisonment; the gonococci had disappeared in from two to four weeks, or more quickly than by the older method; there had been an earlier disappearance of the secretion and control of the inflammation; the restoration of the injured cornea and conjunctiva had been more prompt, and the patient had suffered much less. In making the solution of protargol, it is best to mix the salt with a little water and glycerin to a paste, and then add sufficient lukewarm water to make a .25 to 2 per cent. solution. Plan of treatment recommended: If only one eye be affected, seal up the healthy one, taking care to inspect it every second day. Ice-pledgets are continuously applied to the inflamed eye, night and day, until there is positive evidence of diminution in the secretion—a period varying from a few days to two or three weeks. Meanwhile the eyeball and conjunctival sac are very frequently irrigated with a saturated solution of boric acid. With a large pipette, a .5 or 1 per cent. solution of protargol is carried rather forcibly over the whole eye four or more times daily until the secretion diminishes, when a 2 per cent. solution may be used at longer intervals. The disease should be brought under control by such treatment in the

course of two or three weeks. The secretion should be examined for gonococci on alternate days and the eye not considered safe until none of these organisms has been found for a full week. Protargol lends itself readily to the needs of the ophthalmologist, as it is unaffected by being combined with sodium chlorid, cocain, atropin, eserin, etc. It is not decomposed by the albuminous substances found in the secretions from the mucous membranes, and it is the only known silver compound which is not precipitated by dilute hydrochloric acid. Protargol is a silver proteid compound, occurring as a yellowish powder, which is readily soluble in cold or hot water. Both the powder and the solution are stable. Silver nitrate contains 6.35 per cent. of silver, and in this respect it holds an intermediate position between argonin and protargol. The last mentioned is the richest in metallic silver.—*S. S. Peck, M.D., in Philadelphia Med. Jour.* J. M. M.

CASSARIPE.

S. D. RISLEY, A.M., M.D., writing in the *Philadelphia Medical Journal*, says: "I have used cassaripe with most gratifying results in a large series of cases of ulcers of the cornea, and in a large group of cases of purulent disease of the conjunctiva. I have at no time used it stronger than in a 10 per cent. ointment. It causes no irritation, however, and I see no objection to employing it in much stronger preparations. The ointment was applied freely between the lids, and the eye subjected to massage so as to distribute it thoroughly into the retrotarsal folds, and, in the corneal cases, a protecting bandage was applied. When the patients were in the hospital this was repeated three times daily; in the out-door cases, morning and evening. No other treatment was employed except the use of atropin and a wash of boric acid. In a few minutes after the application of the ointment in new cases the discomfort was much diminished, and the improvement was usually rapid, as compared with other modes of treatment. In a case of ophthalmia neonatorum, the eye was thoroughly cleansed, the ointment of cassaripe applied, and a supply given to be used three times daily at home, after the usual wash. In two days the purulent discharge had entirely ceased." J. M. M.

Fixing the Blame.

A clergyman in Wales is reported by the *Lancet* to have preached a sermon recently, in the course of which he said that "diphtheria is now prevalent in our midst, and many parents, made disconsolate by the deaths of their children, in their moments of despair have doubtless felt inclined to blame Providence. Do not blame Providence; blame the Swansea corporation, and blame yourselves for allowing the laws of sanitation to be ignored."—*Med. Record.*



Selected Articles.

A MONUMENT TO CHARCOT.

ON December 4th, 1898, the monument to Charcot erected to the left of the main entrance of the Salpêtrière, and close to the statue of Pinel, was formally unveiled in the presence of M. Georges Leygues (Minister of Public Instruction), MM. de Selves (Prefect of the Seine), Brouardel (Dean of the Faculty of Medicine of the University of Paris), Navarre (President of the Municipal Council), Lockroy (Minister of Marine), Thuiller (President of the General Council), Napias (Director of the Assistance Publique), Bertrand (Perpetual Secretary of the Académie des Sciences), a deputation representing the French Institute, and a large assemblage of medical and scientific notables. Dr. Jean Charcot, son of the famous physician, and Madame Charcot, represented the family.

Professor Brouardel, in presenting, on behalf of the Committee, the monument to the city of Paris, expressed the feeling of gratitude which the Faculty of Medicine felt towards the great neurologist who had shed such lustre upon it. He also expressed the hope that Charcot's pupils would crown the work of their master, and draw inspiration from his love for science, and in particular that his son, in whom he had justly placed such great hopes, should write the page which he himself had been prevented from completing.

Dr. Navarre, President of the Municipal Council, who received the monument on behalf of the city, recalled the fact that the Municipal Council had done all in its power to further the investigations and second the efforts of Charcot. It helped him to lay the foundations of that Salpêtrière which had been transformed by him into a school shedding light upon the whole world. He praised Charcot particularly for having brought within the realm of the known and the natural things formerly classed as supernatural, and often attributed to demoniacal influence.

Professor F. Raymond, who followed, spoke as the successor of Charcot at the Salpêtrière, a position which he felt imposed upon him a very heavy burden. He gave a rapid review of Charcot's work, laying particular stress on what he had done towards determining the localization of the functions of the brain. He went on to speak of Charcot's researches on the nervous system, which had brought about a revolution in our manner of conceiving the structure, functions, and pathology of the

spinal cord. Charcot, said Professor Raymond, was, indeed, the most admirable healer of nervous diseases, of that great neurosis called hysteria. He taught us a just estimate of the extreme frequency of that affection. By him we were disabused of the error which consisted in believing that women were almost exclusively the victims of hysteria. Through Charcot we know to day that both sexes pay practically an equal tribute to the disease. Again, Charcot's investigation of stigmata supplied the means of detecting hysteria, in cases where it simulates symptoms and disorders, which medical men had been in the habit of attributing to incurable lesions of the nervous centres. Thanks to the discoveries and the teaching of Charcot, we have learned to cure paralyses, tremors, convulsions, pains, disorders of speech, perversions of intelligence and character, and many other morbid manifestations which not very long ago would have been looked upon as refractory to treatment; and in many cases these cures had the appearance of a miracle. Another subject successfully studied by Charcot was hypnotism. He it was, said Professor Raymond, who showed us that while the intervention of the hypnotizer has in it nothing of mystery—since it does neither more nor less than physical agents—the phenomena of hypnotism have nothing more of supernatural about them. They are essentially products of the cerebral automatism, just in the same way as the other manifestations of hysteria. In the course of its activity the brain stores up in the condition of memories all that passes within us and around us, and in particular the representations of the movements which we execute with the appearance of spontaneity, or which we accustom ourselves to execute under the influences of certain impulses. A large part of the phenomena springing from hypnotism are nothing else than the reawakening and setting in motion of these memories in a being whose personal will is held in subjection by another will, which dominates and directs his cerebral automatism. After speaking of Charcot, as he was in his family and his home, Professor Raymond went on to say that he allowed no day to pass without consecrating a large portion of his time to his researches, his teaching, and his patients. His power of work was equal to the brilliancy of his intellectual endowment; and he was further gifted with an indomitable perseverance and an indefatigable ardor in research and in teaching, a remarkable tenacity of purpose and resolute courage in defending his opinions. The influence of his teaching was unequalled; and he not only trained his pupils, but encouraged them to take up original research, arming them with his method, penetrating them with his spirit, and animating them with his own enthusiasm. He helped them on in their career, supporting them by the whole weight of his authority. In this way he created a school still flourishing in vigorous life, which walks in his footsteps.

Professor Cornil, who spoke for the Academy of Medicine and the Society of Anatomy, next said a few words expressing his

respect as a faithful pupil of Charcot, who had been his predecessor in the Chair of Pathology in the Ecole de Médecine.

The Minister of Public Instruction, in closing the ceremony, delivered an address in which he said that, looking upon the great and beautiful statue which a master sculptor had modelled in bronze, one asked whether it represented a professor or a priest. It was easy to guess that it represented an apostle. Such indeed was Charcot by his enthusiasm, his faith, and the breadth and boldness of the horizons which he opened up. On concluding his address M. Leygues conferred upon Dr. Gombault, Physician to the Ivry Hospital and one of Charcot's oldest and most distinguished pupils, the cross of a Knight of the Legion of Honor.

The statue is from the chisel of the distinguished sculptor, M. Falguière, with the collaboration of the well-known architect, M. Samson. Charcot is represented in his professional robes standing in the act of giving a demonstration, the right hand indicating the left temporal region on the head of a dead body lying beside him, and the left making a gesture habitual to the great master in lecturing.—*Brit. Med. Jour.*

SYNOVITIS AND PERIOSTITIS OF TRAUMATIC ORIGIN TREATED BY DRY HOT AIR.

BY F. H. LITTLE, M.D.,

Surgeon-General State of Iowa, Muscatine, Iowa.

THE literature of dry hot air therapeutics, particularly by means of isolated dry hot air at intense temperature, is rapidly accumulating. Intended first as a remedy for acute and chronic articular and muscular rheumatism, it was soon found to be very efficient in arthritis, synovitis and teno-synovitis, no matter whether due to trauma, rheumatism or tuberculosis. My own experience in traumatic periostitis is practically new. The intense heat apparently reduces inflammation, even when situated deeply, causes absorption of effusion and relieves pain.

The following cases will substantiate this so far as traumatic synovitis and periostitis are concerned:

J. S., male, aged 40, merchant. Two years ago, while crossing street, he slipped, causing severe strain to right knee. Two days afterward had pain, swelling and tenderness of joint, and was unable to stand or walk. The parts were very hot, and so much effusion had occurred that the limit of the synovial membrane was clearly defined. Diagnosis, acute synovitis. He was at once put to bed, and the joint had constantly applied to it evaporating lotions as hot as could be borne. After ten days of this kind of treatment, and the swelling and tenderness somewhat subsided, I applied a plaster-of-Paris dressing and allowed him to get around

on crutches. This was left on for six weeks, and upon taking it off no improvement was manifest. He then went to Hot Springs, Ark., and was there eight weeks, with no improvement. He then went to Mount Clemens, Mich., and spent five or six weeks, with ut improvement. He was then treated by intra-articular injections of a 10 per cent. solution of iodoform in olive oil, and the leg again put in plaster. This time the plaster dressing was left on for eight weeks. Upon removing it, the joint was found partially ankylosed, very tender, and the muscles of the thigh and leg were wasted to a shadow. For the next year but little was done for the joint, except the constant use of crutches, and an occasional massage treatment. About October 1st, 1897, the case again came into my hands. The joint was partially ankylosed, tender, cartilages grated upon movement of the joint; was unable to bear his weight upon it. At this time I began the daily use of hot air, applying the apparatus for thirty minutes each day, with passive motion at the end of each treatment. The degree of heat which was more comfortable and quickly relieved the pain was about 300 degrees F. At the end of the first week the joint was less painful, had much more motion, and was in every way better. At the end of three weeks he was discharged cured, and since that time has gone about his business without pain or inconvenience.

J. H. D., male, aged 28, ensign U. S. N. Injured left knee on board ship, May, 1897. Was at once sent to the hospital and treated by rest, massage and plaster dressings till October 15th, when he was granted three months' sick leave and came to this place. The joint was at that time swollen, tender, and walking was very painful; used crutches, and had from May last. I treated him with hot air once a day, and in fifteen days his pain was gone, he had laid aside his crutches and began to walk an hour each day, gradually increasing the time to four hours each day. This causing no pain or trouble, he reported to the department for duty. He is now standing his watches, four hours each, with no pain or trouble of any kind.

M. B., female, aged 21. In October, 1897, was struck over middle third of left tibia by a loose board over which she tripped. No attention was paid for a day or two, as it was thought to be only a slight bruise of no consequence. The third day after the injury pain began in the part, with some swelling along the shaft of the bone, and much tenderness. She consulted her physician, who gave her some sort of external application, which she used. As she grew gradually worse this was changed from time to time, but with no benefit. During the holidays she came into my care, and I found a doughy, tender and swollen ridge along the anterior surface of the shaft of the left tibia, extending from the tuberosity to the internal malleolus. I made diagnosis of chronic periostitis, and began the use of hot air for thirty minutes, running the temperature up to 330 degrees F. After five treatments the pain was pretty well relieved, and at the end of fifteen days I discharged her cured.

J. H., male, aged 50, injured right knee in getting off street car in October, 1897. Three days afterward joint was very much inflamed, was unable to walk, and pain was so severe as to demand opiates. Was kept in bed a week with evaporating lotions to the knee, and at the end of that time leg was put in plaster, and kept in cast for six weeks. Had pain all the time, and when cast was removed no improvement was noted. We began to use hot air for thirty minutes each day at 300° F., and at the end of seventeen days the pain was entirely gone, and patient laid aside his crutches and went about as usual.

Each case I have treated by this method has given me more confidence in it, not as a cure-all, but as a very valuable adjuvant in the treatment of chronic and deep-seated inflammatory affections of the joints and soft parts. The apparatus used is made by Frank S. Betz & Co., Chicago, Ill.—*Iowa State Med. Journal.*

A NEW CATHETER.

THE inherent uncertainties in the cleansing and sterilization of such instruments as catheters, vaginal and wound irrigators, etc., which are often for long periods of time in close contact with highly infectious material, has led M. B. Freund to experiment with a mode of construction which seems to obviate the difficulties. Instead of closed tubes of narrow lumen forming ideal lurking-places for dirt and contaminating elements, his appliances represent a little more than half of the usual instrument, split lengthwise. This leaves simply a long open gutter, all of whose edges and angles are rounded and accessible, and which may be rendered sterile by chemico-mechanical means, without the use of heat, a thorough scrubbing with soap and water, followed by a washing with bichloride solution, lysol or alcohol, sufficing to render it absolutely germ-free. In point of practicability the instruments of this design were found to be in no way inferior to those of closed calibre, a stream of fluid flowing freely along the groove and showing no inclination to leave it. Catheters with a cylindrical extremity, the groove not running quite to the beak to facilitate introduction, acted perfectly in drawing the urine, and the various irrigators that were tested were equally satisfactory. The instruments described were of hard rubber or metal.—(HABKANAH, "Chirurgisch-gynäkologische Praxis," "Volkmann's klinische Vorträge," No. 226, October, 1898.)—*Med. Record.*

DR. W. P. DUCK, of Preston, died of pneumonia on the 20th ult., after a short illness. By his death the County of South Waterloo loses one of its foremost citizens, and the Conservative party a staunch supporter. He was chairman of the Preston School Board, and was noted for his large-heartedness and sincere friendship.

Proceedings of Societies.

ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

THE twenty-sixth annual meeting of the American Public Health Association commenced at 10.30 a.m., September 27th, 1898, in the Parliament Buildings, Ottawa. The President, Dr. Charles A. Lindsley, Secretary of the State Board of Health of Connecticut, occupied the chair and called the meeting to order. The members present were: Drs. A. W. Cantwell, Davenport, Iowa; Frank W. Wright, New Haven, Conn.; James S. Wardlaw, Galt; Irving A. Watson, Concord, N.H.; E. Wende, Buffalo; Crosby Gray, Pittsburg, Pa.; Franklin C. Robinson, Brunneck, Me.; John Sweetland, Ottawa; Dr. Sarah Sparks, Ottawa; C. O. Probst, Columbus, Ohio; F. Montizambert, Toronto; Henry Mitchell, Asbury Park, N.J.; Adolph Gehrmann, Chicago; Louis V. Cubana, Fall River, Mass.; Charles H. Keefer, Ottawa; Charles A. Hicks, Fall River, Mass.; James Patterson, Winnipeg; W. J. Lumsden, Elizabeth City; W. H. Walton, United States Navy; J. M. Hunter, Indianapolis; John W. Russell, Concord, N.H.; R. D. Kahle, Sykesville; J. L. Leal, Paterson, N.J.; C. H. Herald, Newark, N.J.; Richard N. Connelly, Newark, N.J.; Clarence T. Van Dieren, Harrison, N.J.; J. A. Exton, Kearney; A. W. Shaffer, C.E., Raleigh, N.C.; David W. Chandler, Newark; J. J. Gibson, V.S., Dennison, Ia.; Mrs. J. J. Gibson, Dennison; G. P. Conn, Concord, N.H.; F. X. St. Jacques, Ottawa; Rev. Father Constantineau, Ottawa; Rev. Dr. Moore, Ottawa; F. H. Powell, Ottawa; George Burn, Ottawa; James Mather, Ottawa; Sir James Grant, Ottawa; Hon. R. W. Scott, Ottawa; J. R. Allan, Ottawa; C. Berkeley Powell, M.P.P., Ottawa; N. A. Belcourt, M.P., Ottawa; Thomas McFarlane, Ottawa; Geo. Logan, Ottawa; ex-Mayor Borthwick, Ottawa; P. H. Bryce, Toronto; Edward Leciaga, Mexico; G. H. Durgan, Boston; F. C. Robinson, Brunswick, Maine; Jose Ramirez, Mexico; Roman Ramirez, Mexico; R. M. Bucke, London; Albert L. Gilton, New York; Henry Mitchell, Trenton, N.J.; H. B. Holbrook, Charleston, S.C.; George Rohé, Maryland; B. Lee, Philadelphia; Wallace, Russell; C. L. Wilbar, Lansing, Mich.; J. O. Brown, Pittsburg; C. D. Hick, Fall River, Mass.; Small, Fall River, Mass.; T. C. Walton, Naval Laboratory, Brooklyn; Jose Manuel Septiem, Mexico; A. Robillard, Ottawa; E. Pelletier, Montreal; E. P. Lachapelle, Montreal; H. R. Gray, Montreal; J. A. Beaudry, Montreal; E. J. Curtis, Albany; J. J. Mackenzie, Toronto.

The report of the Executive Committee was received, and showed thirty-five recommendations for new members.

A resolution was adopted favoring the appointment of a commission of United States, Canadian and Mexican medical men to endeavor to have the Bertillon system for the classification of diseases adopted in the respective countries, and as far as possible to unite with European countries that use this system.

The first paper was one by Dr. R. M. Bucke, on "A System of Sewage Disposal at the Asylum for the Insane at London, Ont." Owing to the author's absence, Dr. P. H. Bryce read the paper. The system of disposal of sewage at London is the land system. About seventy-five thousand gallons a day are pumped into a field and spread in two and a half hours' time. In six hours the sewage is entirely absorbed, and no pollution of the ground occurs. Vegetables and fruit are grown to the extent of \$200 per acre.

Mr. Thomas MacFarlane, F.R.S.C., chief analyst of the Inland Revenue Department, read a paper on the disposal of sewage in some European cities. Mr. MacFarlane, who has examined all systems, said that in London, England, the sewage is treated by a precipitation process. The liquids and solids are separated, and the latter are taken out to sea. This costs \$600,000 per year. The land system is in use in Berlin with good results. A moss litter filter was advocated, as it can be burnt afterwards.

"The most Recent Methods of Sewage Disposal, and their Application to certain Cities in Ontario" was the title of a paper read by Mr. C. G. Horetzky, C.E. This paper was the same as read at the Ontario Health Officers' Convention.

The paper of Capt. W. E. Vanbuskirk, C.E., on "The Filtration of Sewage," was also read. A short discussion ensued on all the papers.

Prof. F. T. Shutt, M.A., read a paper on "The Farm Well," which was also discussed for a short time, when adjournment took place.

The afternoon session opened sharp at 2 o'clock, with a very representative gathering.

The first business taken up was a paper by Dr. John L. Leal, Health Officer, Paterson, N.J., on "An Outbreak of Typhoid Fever, Due to an Infected Public Water Supply." The paper dealt with the pollution of the water as supplied the residents of Paterson, N.J. He said his reason for reporting the following outbreak is that it seems to aid in establishing the fact that a single case of typhoid fever may infect even a large body of water, so as to reproduce itself among those dependent upon the same body of water for their public supply, even though the said supply be taken at a point some distance from the point of infection. The cases of typhoid developed as follows: During the last half of September, 26 cases; October, 4 cases; November, 103 cases; December, 58 cases. The disease was evenly distributed throughout the city, except in one district, containing about two thousand

people, and among all classes of the inhabitants. No possible common means of infection could be found except the public water supply, upon which all of those affected, with the possible exception of two or three, were dependent for at least a portion of the twenty-four hours. The only sections of the city, which did not contain a single case, were not furnished with a public water supply. The water is taken from the Passaic River. No evidence was shown above the falls of harmful pollution. Below the falls chemical evidence of harmful pollution was found. This river had been more or less continuously infected by cesspools from Sept. 1st until Nov. 24th, when the discharge pipe was discovered, and further infection from that source prevented. A short discussion took place which did not bring out any further information.

Dr. P. H. Bryce, Chairman of the Committee on the Cause and Prevention of Infectious Diseases, presented a very extensive report, in which he gave much valuable and entirely new information on the subject. He said that infectious diseases fall into several divisions, just as classified plants, both as regards their mode of causation and their growth and development. The subjects with which the Association deals to-day, however, were not to any great degree those which troubled them fourteen or twenty years ago, excepting perhaps about mere germ itself. About small-pox we seem to have learned pretty much, and vaccination and compulsory isolation, with effectual cleaning, ends the matter. Six weeks is set down as the extent of isolation. The same might be said of scarlatina, except that the working physicians and medical health officers now found it very difficult to accept the still accepted rule of English hospital practice of isolation of a minimum of forty days. As regards the methods for suppressing the outbreak of diphtheria in a community, further experience in Ontario during the past year has shown that the following seems the most effective and prompt means of stamping out an outbreak: In a number of municipalities where the disease appears—as it does principally amongst school children—the practice was introduced of a morning visitation by the sanitary inspector to all the Public Schools, to obtain a list of the day's absentees. The homes of these were promptly visited, and when any evidence of malaise and sore throat was present the parents were at once required to send for the family physician, and have a swab taken out and forwarded to the medical officer by the same afternoon. These are sent at once by mail to the Provincial laboratory, and the patient isolated until an answer is received by telegraph. Where the case proved to be diphtheria the patient was isolated until further examination proved the freedom of the throat from bacilli. The children of the household were kept from school and the public, and the home disinfected. The progress of medical knowledge had been very rapid during the past year, and, said Dr. Bryce, this report would not be complete without some reference to it in regard to the inoculation and dissemination of and to the

prevention of tuberculosis. The report concluded by drawing attention to the danger that arises in residing in houses in which consumptives have lived, and, in his opinion, these residences should either be entirely renovated from top to bottom or pulled down.

"What Constitutes an Epidemic?" was a paper read by Dr. Benjamin Lee, Secretary of the State Board of Health of Pennsylvania. The paper proved to be an excellent one, and combined with the questions of importance were many humorous situations which caused much amusement and laughter. The ordinary definition of epidemic, he said, was that a disease was epidemic when a number of persons are taken down with it at the same time. The answer to the question the Medical and Surgical Association of New Orleans gave was that the disease should be declared epidemic when the number of cases should reach these proportions: For a population of 100, 5 per cent.; for 500, 4 per cent.; 2,000 to 3,000, 2 per cent.; 5,000 to 10,000, 16 per 1,000; 20,000 to 50,000, 8 per 10,000; 50,000 to 100,000, 4 per 10,000. At one time when yellow fever was epidemic in New Orleans the Board of Health denied that it was epidemic, doubtless basing their decision on the above arithmetical standard. Dr. Lee claimed that if a dozen cases occurred in rapid succession from one, rapidity of speed should be solely considered. The Board of Health which, having knowledge of such conditions, purposely conceals it, or still worse, denies it, is guilty of a crime of hideous proportions; none the less so because it is acting in obedience to the behests of the business portion of the community, or from a mistaken sense of local patriotism. A discussion followed these papers, in which a number of the medical men took part. The questions appeared to interest the members greatly, and a large number took advantage of the opportunity to discuss them.

"The Urgent Need of Sanitary Education in the Public Schools," by Mrs. Ellen H. Richards, Institute of Technology, Boston, occupied the attention of the members for the next few minutes. The paper was read by Dr. Henry Mitchell, Asbury Park, N.J. In opening, Mrs. Richards says that if any one lesson stands out more prominently than another, as taught by the experience in the recent war with Spain, it is that the average American citizen has not accepted the teachings of sanitary science as a part of his creed. At this time of the year, continues the lady, when every State in the Union is suffering its loss of men from preventable disease, and is paying larger sums of money for sick soldiers than was paid for the support of the fighting men, there is a good opportunity to preach the gospel of preventive medicine. Why should our soldiers have believed that it made any difference what water they drank, when they had been accustomed to the conditions prevalent in nine-tenths of the school yards in this country? Why should the men have taken care to keep the decks of the transports clean, when they have been accustomed to dirty school-

room floors, yards and streets all their lives? Clean school-houses, clean streets and special education cost money, which the officials claim that it is impossible to get, but the fact should be brought home to the community that the needless sickness and death among our soldiers would have paid for cleaning every school in the land, and the pension money will be more than enough to keep them clean. After enumerating several cases in reference to the above, Mrs. Richards said, that the volunteer's ignorance of food values and food preparation was even greater than his ignorance of the most evident of sanitary principles. Good cooking would have undoubtedly postponed, if not prevented, the outbreak of fever. The troops should have instruction in camp cookery, as a feature of the annual encampment. It is evident, she said, that the luxurious habits of the average Americans have weakened their stomachs, so that much time and out-of-door exercise are necessary, before they can digest the wholesome army ration, no matter how good. The examination for the army should include the digestive capacity, for the man with the dainty appetite has no more place in the army than the man with a bicycle heart. The paper was not discussed.

"Theatre Sanitation," by Mr. William Paul Gerhard, C.E., New York, was read, but contained nothing new in reference to the subject, and no discussion ensued.

An adjournment was then made.

The formal opening of the Association was held in the evening in the City Hall before a large and representative gathering of the society of the capital, visiting medical men and their wives. Prominent in the decorations were the flags of the United States, Mexico and Canada entwined with one another, and throughout the meeting the trend of the speeches was the close relations which now prevail amongst the Anglo-Saxon race. Sheriff Sweetland occupied the chair, and on the platform with him were Hon. Sidney Fisher, Minister of Agriculture; Sir James Grant, his Worship Mayor Bingham, Rev. Dr. Moore, Ald. Black and President Lindsley of the Association.

Sheriff Sweetland opened the meeting in a short speech, in which he emphasized the importance of the Association and characterized it as the most important body that ever visited Ottawa.

Hon. Sidney Fisher, on being called upon, said it devolved upon him to represent the Dominion Government, in welcoming the visiting medical and health officers. This might be thought strange, but the reason was, that in his department came the quarantine system, the only service in the Dominion Government dealing with public health. He congratulated the Association on its success at this, its third convention in Canada, and said it was especially appropriate at a time when the bonds of sympathy and friendly relations between the United States and Britain were so strongly manifest. His Worship Mayor Bingham

extended a welcome on behalf of the city. Sir James Grant and Ald. Black also spoke.

Prof. Charles A. Lindsley, M.D., President of the Association, then delivered his annual address, which contained, amongst other things, a reminder of the progress made in medical science during the past few years. "We no longer fear," said he, "those terrible pestilences such as three hundred years ago swept off half the population of Christendom. What wonderful achievements civilization has accomplished in this direction! Notice the deadly maladies which all of you have heard of, but which few of you, if any, have ever seen, because they have disappeared—positively disappeared under the influence of the civilization that we enjoy. Many of us have had personal observation of the plague of leprosy, of scurvy, of typhus fever, or yellow fever, and, I may also add, of small-pox. Civilization is an evolution; it is progressive, developing new features with every advance. Health organizations are themselves a development of civilization." He contrasted the man savage and the man civilized, and said it was one of the most remarkable phenomena in nature. He compared the physical condition of both species, showing the savage to be the equal of civilized man in interior construction, and that the latter, through the debilitating practices of civilization have become weakened and effeminate. So potent for evil consequences are these that the question is already discussed: Does civilization tend to the extermination of our race? Civilization had strong tendencies to sociability, and all habits, customs and aims were controlled thereby. All had seen that in cities civilization was formed and fostered. He strongly contrasted city and country life, and quoting from what the poet Cowper says, "God made the country and man made the town," told how in densely populated places, vice, poverty, epidemics of contagious diseases and want and ignorance abounded. He spoke of the protection afforded all classes of the needy public, and said it was becoming more recognized every day that the duty of a government was to protect public health. Except in a few instances, and only in cities, the best methods of practical sanitation for the people were yet required in America. England led all other countries in public sanitation. In Canada, Mexico, and in many States of America, he said, they are illustrating (as yet imperfectly) an ideal system. They have a central organization, a Provincial or State Board of Health, a Local Board and a health officer for each city or town in the Province or State. The central Board is the head, the health officers the hands. The speaker dwelt at some length on this system of looking after the health of the public, which, in his opinion, was an excellent one, and said the public intelligence should appreciate the value of it. In reference to the officers of the Board, he said they should give their undivided attention to their official duties. No physician could practise in the community in which he serves as health officer without a conflict of personal with public interests. He advocated

a public chemical and bacteriological laboratory, and said a central Board was not fully equipped without one. In closing he again drew attention to the Public Health Boards, and said their work must go on, nurtured, sustained and guided by skill, judicious enterprise and intelligent energy, until in practical utility and successful results they would have no superior among the nations of the earth.

The second day's session of the American Public Health Association met at 10.30 a.m., September 28th, in the Railway Committee Rooms, Parliament Buildings, President Lindsley in the chair. There was a good representation present, and the Executive Committee announced the acceptance of nine new members. The Executive also announced an addition to the resolution adopted yesterday recommending the adoption of the Bertillon classification as follows: "*Resolved*, That the Governments of the United States, Mexico and Canada be likewise requested to make this classification the basis of the mortality statistics of the census of 1900 and 1901. It was also resolved that the American Public Health Association approves the general principles and plan of procedure, relative to the periodical revision of the Bertillon classification of causes of death, as submitted by the Committee on Demography and Statistics in their Sanitary Relations. Another resolution read: "That commissions of three members be appointed by the President of the American Public Health Association at this meeting, subject to the approval of the Executive Committee, from each of the countries represented in the Association, to act jointly with each other and with similar commissions from other countries in the revision of the Bertillon classification of the causes of death and that said commission shall be authorized to adopt such necessary rules, in conjunction with other countries associated in the work of revision, as shall be necessary for its successful conduct. They shall also report progress to this Association at each annual meeting, and this shall be continued until the work of revision is completed and their successors selected for the next periodical revision."

PREVENTION OF YELLOW FEVER.

Dr. Henry B. Horlbeck, Health Officer of Charleston, South Carolina, Chairman of Committee, presented the report on the "Etiology of Yellow Fever." The report dealt with the work of the committee since their appointment at the last meeting. They had conferred with President McKinley on the matter, and were successful in having a committee appointed by Congress from the army and navy and civilian life, who have thoroughly investigated the disease as far as possible, and will continue to do so. Continuing, Dr. Horlbeck said: "Dr. Dominguez Freire, of Brazil; Drs. Richardson, Charrin, Carmona-y-Valle, Fenley, Delgade, Gibber and Havelberg have all claimed the discovery of a bacillus, or microbe, that was pathogenic to yellow fever. While a number believe the-

bacillus icteroides to be the true origin and source of the disease, conviction is not assured. In a laboratory at the lazaretto, on the Isle de Flores, Dr. Saurelle found an organism, differentiated it, tested it, and named it bacillus icteroides, and presented it to the bacteriologists of the world. This microbe has been studied, and is on its passage to oblivion among the pathogenic bacilli. Many believe that the long-wished discovery has been made, but much work is to be done before a certainty is realized. After citing a number of cases of the authority before mentioned, the report went on to say that from the above series it will be seen that in the fifty cases of yellow fever, agglutination with cessation of motion was obtained in over 70 per cent. of cases, the reaction being as characteristic as in typhoid fever cases, and they say from this that the work demonstrates the practical value of serum diagnosis. It may be utilized as early as the second day, and be exceptionally present as late as nineteen years after the disease. The paper was very lengthy, and enumerated a large number of cases in which the disease was shown in different forms.

Dr. Gihon, late of the United States Navy, read the reports of Dr. Eduardo Licenga, President Superior Board of Health, Mexico, who was not conversant with the English language. The reports went into the question of yellow fever, as found in Mexico, in a very extensive manner, and discussed how the fever has been imported from Cuba into Mexico. The report was discussed briefly.

Dr. Ernest Wende, Health Officer, Buffalo, N.Y., presented the report of the Committee on the "Cause and Prevention of Infantile Mortality." The report stated that the committee's work had been unsatisfactory for several reasons, although instructive in certain features. Very few replies had been received to the thousands of circulars for information which had been sent out. The great fault in small places was the trouble caused by the change of officers and the carelessness in the means of protecting the helpless. Vigilance regarding the milk and water supplies had done much to lessen mortality. Much satisfaction is found in the general condemnation, theoretically at least, of the long tube, death-dealing, nursing bottle. He thought that the committee should be continued, so as to be able to procure additional information. On resolution the committee was continued.

Dr. Suiter, of Herkimer, New York, moved, "That in receiving and adopting the report of the Committee on the 'Causes and Prevention of Infantile Mortality,' this Association places itself on record in the following resolution: *Resolved*, that it is the sense of the American Public Health Association that all State, city and town health authorities and medical societies generally, should exercise every possible effort to procure the enactment of laws in their respective cities, villages and towns to prohibit the sale of the so-called long-tube nursing bottles, as being a perniciously active agent in the causation of preventable disease of infancy of the most serious character."

The resolution was referred to the Executive Committee.

"Some Observations from Practical Experience with Bovine Tuberculosis in New Hampshire" was the subject of a most interesting paper by Dr. Irving A. Watson, President of the State Board of Cattle Commissioners and Secretary of the State Board of Health. The doctor presented the following conclusions: That it is impossible to eradicate bovine tuberculosis, but it may without inflicting too great a burden on the State be reduced to a degree that will subserve the interests of the stock-raisers and likewise protect the public health; that but a very small percentage of the animals infected with tuberculosis in any way endanger the public health, and that an indiscriminate slaughter of the cattle reacting to the tuberculine test is wholly unnecessary, inasmuch as many of them either recover or the disease is permanently arrested; that a proper sanitary condition of stables and stable enclosures would do more toward preventing the spread of bovine tuberculosis than any other measure that could be adopted; that the danger of infection from bovine tuberculosis may be reduced to very small proportions, if not wholly eradicated, by sanitary measures, inspections and physical examinations by the State, in co-operation with local authorities, and that such inspections once inaugurated could be maintained without an expense that would be burdensome to the State.

Dr. A. D. Schweinitz, Chief of the Bureau of Animal Industry, Washington, D.C., read a paper dealing with the matter in another form. The paper was interesting from a technical standpoint, and a general discussion ensued, which was taken part in by a large number of the members.

When the session of the American Public Health Association adjourned at 12.30 o'clock, the members, accompanied by their wives and members of the Citizens' Committee, boarded electric cars and were transferred to the village of Aylmer, on the shores of Lake Deschene, where the steamer was taken and a most delightful trip to the Chats Rapids enjoyed. The day was perfect, and for the month of September its equal has not been known for years. On the boat an orchestra was stationed, and as the magnificent steamer glided through the placid waters of that beautiful lake they rendered Canadian, American and Mexican patriotic airs in a delightful manner. The Mexican delegation in attendance at the convention enjoyed the pure Canadian atmosphere very much, and were loud in their praise of the beauties of the country. They speak French as well as Spanish. These gentlemen travelled six days to attend this meeting and have added many valuable papers to the transactions of the Society. The boat went the distance of twenty-five miles, and then made the return trip just as the sun was sinking in the west. This sight was a most beautiful one, and the lovely purple tints of the Laurentian Mountains were the admiration of all. Arriving at the Hotel Victoria, a most elaborate banquet was partaken of, tendered

by the citizens of Ottawa. Over two hundred were present, including Hon. Sidney Fisher, representing the Dominion Government; Eduardo Liceaga, representing Mexico, and Lieut.-Colonel Charles Turner, United States Consul-General.

The session began at 10.30 a.m., September 29th, Dr. Benj. Lee, of Philadelphia, Vice-President, in the chair. The Executive Committee reported their decision not to adopt the resolution offered on September 28th in reference to interdicting the so-called long-tube nursing bottle, and their action was endorsed.

Dr. Henry D. Holton, Brattleboro', Vt., presented the report of the finances of the Association. The report was referred to an Auditing Committee, composed of Drs. Watson, Wright and P. H. Bryce. The report showed that the finances were in excellent shape, and that the Association had passed through a prosperous year.

Dr. Manuel Septiem, of Queretaro, Mexico, read a very exhaustive paper, entitled "Compulsory Vaccination Ought to be Imposed as a Paramount Necessity." It is unfortunate, he said, that neither the people nor the Government of the people have known how to take advantage of the immense good which vaccine is capable of producing. Small-pox ought to have disappeared long ago from civilized nations, and the people ought to carry on their arms as a shield those everlasting stigmas which vaccination leaves. He regretted to see that in several places there was an apathy towards vaccination, and attributed it to cases of vaccinal ulceration. Compulsory vaccination could not be carried out from the year 1876 till 1884, and in 1885 such a strong epidemic broke out that in nine months in the city of Montreal alone thousands were attacked with small-pox, causing the death of 3,500 persons. A Pullman car conductor arriving from Chicago, where he had contracted the disease, was the vehicle of infection. It is in Germany where vaccination is most extensively practised, and there are physicians who have never seen a single case of small-pox. The disease has disappeared from the German army since they have submitted to re-vaccination. He submitted the following project for the consideration of the Association: To direct a petition to the Governments of the three nations represented here in order that they provide more energetic laws than now exist, making vaccination obligatory and providing severe punishment for those who do not obey. The report was very voluminous, and at the conclusion an interesting discussion took place. The general opinion appeared to be that vaccination should be practised more generally.

Dr. Charles L. Wilbur, Chief of Vital Statistics, State Department, Lansing, Mich., presented the report of the Committee on Demography and Statistics in their Sanitary Relation. He said the progress of the classification recommended, that known as the Bertillon system, has been so rapid in the last few months that a supplementary report was necessary to bring the history of the movement down to the present date and to provide for its further

extension. No less than twelve American States have formally adopted it since the beginning of the present year, namely, Connecticut, Indiana, Maine, Maryland, Michigan, Minnesota, New Hampshire, North Carolina, Pennsylvania, Rhode Island, Vermont, and Wisconsin, besides which several others are only waiting for the action of the Association. It is the official system in use both by the Province of Ontario and the Province of Quebec, and it was regarded as a matter of congratulation that Drs. Bryce and Lachapelle had recommended its use by the Dominion Government in the approaching census of 1901.

The formulation of a plan of international union of the countries using this system whereby revisions could be made when necessary, occupied a considerable part of the report. The necessity of immediate action was strongly urged, in order that the revised classification might be available for use in 1900, and the committee gave a practical example of the celerity which they recommended by stating that the plan of revision proposed, which was not drafted until after the conference of the Boards of Health at Detroit, had already been submitted to the highest statistical authorities of France, and their cordial approval and the promised co-operation of the French statistical service obtained. Correspondence is being conducted with the registration offices of Europe and South America, and arrangements have been made to announce the results of the revision at the session of the International Congress of Hygiene and Demography at Paris in 1900. The plan provides for consultations of pathologists, sanitarians and all persons making use of mortality statistics, as well as the registration offices, and the decision as to changes from the present form is to be determined by ballot of the registrars actually engaged in the preparation of such reports. As Dr. Bertillon writes: "The American Public Health Association, in adopting a uniform nomenclature of diseases, realizes a considerable statistical advance, which the statisticians of Europe have sought without being able to obtain since 1853, the date of the first International Congress of Statistics at Brussels. The question was there presented, but it is only in 1898 at Ottawa, that it could be solved." The following committee was appointed in the matter: Canada, Dr. P. H. Bryce, Dr. Lachapelle; United States, Dr. Wilbur; Mexico, Dr. E. Liceaga, Dr. Roman Ramirez.

Dr. Jose Ramirez, of Mexico, presented a report, entitled "Ought We to Re-open the Leprosy Asylums?" Leprosy is still scattered throughout the world. As its origin is not of a Teutonic character, we can understand how it invades the climates of widely different characters. It is a disease exclusively confined to man, of a bacterial character, contagious, and one that respects no race whatever. He then alluded to the disappearance and reappearance of the disease in various countries, making it serve as a thermometer to indicate the degree of hygiene of the different peoples. These facts lead us to a conclusion that leprosy, an incurable disease, can

be suppressed in civilized countries by means that are within the reach of the sanitary authorities. An observation of some centuries has perfectly demonstrated the contagious character of leprosy (still denied by some physicians), and the arbitrary measures that up to the Middle Ages were employed to prevent this fearful contagion, proved by the positive results that these observations were correct, that is to say, the isolation of the leper was the most certain method of preventing the appearance of fresh cases. The disease, the doctor thinks, is not hereditary. The long-accepted theory that children inherit it from contaminated parents had been disproved, and the fact holds out greater hope for the future. The disease, he continued, has very rarely been found in Canada, although well-established cases have been seen. In the United States there are a few small foci, which are especially found in Louisiana, Texas, California, Minnesota and Oregon, but the recent annexation of the Sandwich Islands places the United States in an especial condition to at once undertake some measures of defence against that immense focus of leprosy which is so well known and is so dangerous. In Mexico we also have leprosy scattered in different States; we therefore find that Canada on account of the British colonies of India, the United States on account of the foci in its own country and the recent annexation of the Sandwich Islands, as well as Mexico on account of the numerous foci it contains, are three nations which ought to come to an agreement with a view to taking steps against the propagation and for the establishment of uniform measures of prevention, as far as is permitted by the special condition of each country.

Mr. J. W. Hughes, Montreal, presented the report of the Committee on Sanitation, with special reference to drainage, plumbing and ventilation of public and private buildings. The report was very extensive and was freely discussed.

The afternoon session opened at three o'clock, Dr. Benjamin Lee, Philadelphia, First Vice-President, in the chair. Owing to Mr. J. W. Hughes, of Montreal, being obliged to leave for home to-day, his paper on "The Intercepting Trap in Private Sewers," was read. Mr. Hughes unhesitatingly condemned the fitting of the intercepting trap in private sewers. Minute investigation has shown that when an intercepting trap was used it not only modified the speed and partly obstructed the flow of sewage, but it prevented any of the air carried down by the soil and other waste water pipes from discharging into the street sewer, where its aerating functions are so necessary to commence the purification of the sewage in the drains and assisting in preventing sewer gases generating in the sewers. It has also been shown that when the main intercepting trap is omitted there is a superior and self-cleansing flow of sewage, and that large volumes of air pass through to the street sewer, creating a healthy atmosphere and circulation of air down the soil-pipe through which the fluid is passing, and up other soil-pipes that are at the time standing idle. Mr. Hughes said that his

observation had led him to believe that in houses in which there was an absence of sewer pipes having obstructing traps there was freedom from odors and diseases that could be traced to sewer gas poisoning, while on the other hand those cities which had adopted the principle of intercepting traps, were often quite the reverse, and a great deal of disease was found among the inhabitants who happened to live in modern-built houses when the obstruction system had been installed, and this in spite of the fact that the same towns had spent large sums of money in flushing drains and artificially ventilating the street sewers, a thing which is never necessary if the sewers are laid down properly and the straight, unobstructed system is adopted.

The next paper was also admitted on sufferance, it having been on the programme for September 30th, but being to a large extent on the same subject as the previous one it was admitted as a matter of discussion. The paper was by Dr. Durgin, of Boston, Mass., and in it he endeavored to show that bad gas fittings were more dangerous to health than bad plumbing. He made reference to the danger from illuminating gas and the need of wholesome regulations and careful inspection to secure better construction and repairs for gas pipes and gas fixtures. He did not wholly deplore the popular fear of sewer gas, but he had to affirm that there was no scientific basis for regarding it as an active poison or a serious source of danger to human life. Continuing he said: On the other hand, it must be said without hesitation that illuminating gas contains a most active and deadly poison. No deaths, he said, are reported from sewer gas, but many are reported from illuminating gas. In Boston 169 deaths had occurred through the latter agency in the last five years. Such deaths were reported only when no doubt existed as to the cause and effect. That innumerable cases of slow poisoning, with the attendant disturbances of health and comfort, do occur was believed by the medical profession, but such cases did not appear upon the public records. He believed that they should maintain that simple coal gas, dangerous in itself to health, was a great menace to health when conjoined to the many small leaks in the gas pipes and fittings sufficient to make it inexcusable for the health officer to refrain from giving at least as much attention to gas pipes and fixtures as is now given to the plumbing and drain pipes.

Dr. Juan Brena, Zacatecas, Mexico, gave a few "Rough Notes on the Etiology of Typhus Fever." The paper was very lengthy and the doctor could not finish it in the time limit. He said that in preparing the paper he had borne in mind that the chief object of the Association was the prevention of disease by the improvement of sanitary legislation, and that such an important matter covered the field of all medical knowledge. The idea of isolating the patients suffering from the disease might, he said, be considered as purely empirical, and contained a proof of our state of ignorance rather than of our advancement.

Dr. J. N. Hurdy read the report of the Committee on the Ventilation of Railway Cars, which proved a very acceptable communication, as the information given was in reality a victory of the Association after a number of years' work in inducing several of the big railroads in the United States to adopt sanitary arrangements in the running of the cars in respect to the equipment and general arrangements. The railroads in question are the Big Four and the Pennsylvania, the former a system of some 3,000 miles and the latter over 6,000 miles. Official letters were read from the company to the chairman of the committee, informing him that they had taken into consideration his suggestions, and their cars were now undergoing sanitary improvements, in accordance with his wishes. The officials stated that they intended to reconstruct all their cars so that cleanliness would be a most important feature. Movable seats, plain interior with disinfection daily and healthy heating are the principal features. The air is drawn from outside the car through ducts, is then passed over steam radiators between the floors and then introduced into the car under the seats. This avoids warming over and over the dead air in the car. The bad air goes out through an opening in the roof.

"The Administration of the Adulteration Act in Canada" was an excellent paper by Dr. F. X. Valade, of Ottawa. In opening, the doctor said: "The theory of microbes as the causes of diseases being now admitted as an established fact, attention is directed to their mode of conveyance through the organism. On examination foods and drinks were found to be the general channel through which these microscopical beings migrate to the organism where they implant themselves, grow and multiply with prodigious rapidity." Continuing, the doctor said that Canada, always alive to the questions of public health, did not overlook the important question, and passed an Act for the inspection of foods and drinks. This Act provided for the appointment of competent analytical chemists, who carry out its provisions. The instructions received by the food inspectors are issued by the central laboratory, and foods and drinks are collected and delivered to the analysts.

Dr. Gregorio Mendizabel, Mexico, gave a very interesting paper on diseases of the skin and of the hair and scalp, which are commonly transmitted by contagion at schools, and the way of preventing them.

The closing discussion of the day was on the methods of using disinfectants in cities.

The Advisory Council presented their report, which contained the recommendations of the officers for the ensuing year and the appointment of the next place of meeting, which was adopted. The officers are as follows: President, Dr. George H. Rohé, Baltimore; Vice-Presidents, Dr. Henry Mitchell (Asbury Park, N.J.), Dr. Jesus Monjaras (Sanluis Potosi, Mexico); Secretary, Dr. C. O. Probst, Columbus, Ohio; Treasurer, Dr. Henry D. Holton, Brattleboro', Vt. The selection of the next place of meeting was ratified, and the

next session will be held early in November next year in Minneapolis. Executive Committee—Prof. F. C. Robinson, Brunswick, Me.; Dr. Gregorio Mendizabel, Mexico; Dr. P. H. Bryce, Toronto; Dr. H. M. Bracken, Minneapolis; Dr. Irving H. Watson, Concord, N.H.; Dr. Frank W. Wright, New Haven. The only other place making a bid for the 1899 convention was Chicago. A telegram was received from Carter H. Harrison, Mayor, extending the invitation, but the Executive decided to go to the North-West.

THE PATHOLOGICAL SOCIETY OF TORONTO.

THIS society held its annual open meeting in the Biological Buildings, Queen's Park, 8.30 p.m., December 30th, 1898, the President, Dr. Primrose, in the chair. The attendance was large, as in addition to the members a good many city physicians and others from a distance were present. The programme was as follows:

- (1) "Malignant Disease of the Esophagus," by Dr. H. A. Bruce.
- (2) "A Case of Hypertrophic Cirrhosis of the Liver," by Dr. J. E. Graham.
- (3) "A Case of Cirrhosis (fatty) of the Liver," by Dr. H. B. Anderson.
- (4) "Intestinal Diverticula," by Dr. John Caven.
- (5) "Ulcerative Endocarditis affecting Tricuspid and Mitral Valves," by Drs. A. McPhedran and R. D. Rudolf.
- (6) "Situs Inversus—a Specimen," by Dr. D. F. G. Wishart.
- (7) "Multiple Intussusceptions of the Ileum," by Dr. H. H. Oldright.
- (8) "Fibrinous Effusion into Subdural Space," by Dr. A. Primrose.
- (9) "Accessory Right Bronchus in a Sheep," by Dr. J. T. Fotheringham.
- (10) "Eustrongylus Gigas in Kidney of Mink," by Dr. F. N. G. Starr.
- (11) "Skiagraph—Gunshot Wound of Foot—Specimen from Fatal Gunshot Wound," by Dr. G. Silverthorn.
- (12) "Rodent Ulcer at Edge of Orbit," by Dr. William Oldright.
- (13)—*a*, "Cerebral Softening, following Injury"; *b*, "Pachymeningitis Hemorrhagica Interna"; *c*, "Ruptured Uterus"; *d*, "Fractured Pelvis," by H. B. Anderson.
- (14) "Fibroma Uteri, with Hemorrhages from Twist of Pedicle," by Drs. I. H. Cameron and J. T. Fotheringham.

Papers, explanatory of the specimens they exhibited, were read by Drs. Bruce, Graham, Caven and Rudolf, respectively.

Dr. William Osler, of Johns Hopkins University, who was present, discussed the questions of hypertrophic cirrhosis and intestinal diverticula.

Dr. John Amyot exhibited, with the projection microscope, a series of slides, showing the stages in the development of tuberculosis in the lung, an adenoma, a series of simple carcinomata, squamous-celled and columnar-celled epitheliomata, pneumonia, hypertrophic and atrophic cirrhosis of the liver and melano-sarcoma of the liver.

Professor Ramsay Wright also exhibited a few sections of early human embryos.

REPORT OF DEATHS FROM CONTAGIOUS DISEASES IN ONTARIO FOR THE MONTHS OF OCTOBER AND NOVEMBER, 1898.

PREPARED BY P. H. BRYCE, M.A., M.D., DEPUTY REGISTRAR-GENERAL.

OCTOBER, 1898.

Total Population Reporting.	Total Municipalities Reporting.	Total Deaths Reported.	Scarlatina.	Rate per 1,000 per Annum.	Diphtheria.	Rate per 1,000 per Annum.	Measles.	Rate per 1,000 per Annum.	Whooping Cough.	Rate per 1,000 per Annum.	Typhoid.	Rate per 1,000 per Annum.	Tuberculosis.	Rate per 1,000 per Annum.
2,200,072 97%	707 94%	272	14	0.07	33	0.2	4	0.02	8	0.04	54	0.3	153	0.3

NOVEMBER, 1898.

2,153,415 95%	677 91%	284	17	0.1	50	0.4	0	0.03	6	0.03	50	0.3	146	0.8
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Population of Province 2,303,402

Municipalities of Province 745

The Canadian Journal of Medicine and Surgery

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Oral Surgery—E. Y. ADAMS, M.D., D.D.S., Toronto.

Surgical Pathology—T. H. MANLEY, M.D., New York, Professor of Surgery, New York School of Clinical Medicine, New York, etc., etc.

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Pharmacology and Therapeutics—A. J. HARRINGTON, M.D., M.R.C.S. Eng., Toronto.

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Pediatrics—AUGUSTA STOWE GUILLET, M.D., Toronto, Professor of Diseases of Children Woman's Medical College, Toronto.

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Ophthalmology and Otolaryngology—J. M. MACCALLUM, M.D., Toronto, Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

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Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the fifteenth of the preceding month.

VOL. V.

TORONTO, FEBRUARY, 1899.

NO. 2.

Editorials.

THE DISINFECTION OF THE DOMICILES OF TUBERCULAR PATIENTS.

ATTENTION was drawn at the last meeting of the Provincial Board of Health to the disinfection of the domiciles of tubercular patients. After the matter had been fully discussed the following resolution was carried: "That in the opinion of the Board it should be made obligatory on physicians to report all cases of tuberculosis occurring in their practice; if a physician is not consulted, then this duty should fall upon the householder; that the Local Board of

Health should provide for the regular and systematic disinfection of the domicile in which the patient lives and should be notified of the removal of any tubercular case to a hospital or sanatorium."

This resolution is simply the logical outcome of well-understood medical facts. The mortality reports published in this journal show that more deaths result from tuberculosis than from all the other contagious diseases reported.

As tuberculosis is held to be a contagious disease, communicated principally by the dried sputa of phthisical patients, notification should be given of it just the same as of diphtheria, scarlatina, etc. Notification is the all-important step; that once made obligatory by law, disinfection of the domicile or apartment occupied by the patient, would naturally follow. Without notification the Local Board of Health will not disinfect, unless requested to do so. It is quite likely that arguments will be used against the legalizing of notification, and, if phthisical patients were consulted, so radical a measure would never be placed on the statute book. The reason is obvious; a patient, once pronounced tubercular by medical authority, is looked upon with dread and occasionally is obliged to change lodgings. Much of this hardship arises from a misconception in the public mind as to the means by which tubercular infection is spread. If the people knew exactly what to do and what to expect from the Local Health Board, the presence of a tubercular patient in a house would not be looked on with so much dread as it is at the present time. The only remedy for ignorance is instruction, and when people learn from their physicians how, when and where tubercular infection may be conveyed, they will not in any way abate their kindness to the afflicted, while they protect themselves from unnecessary danger.

In order to make people aware of the requirements necessary in managing a case of tuberculosis in a family, public meetings should be held in different parts of the Province, at which addresses on this subject could be delivered by members of the Provincial Board of Health and other prominent physicians. We do not think that too much should be left to the initiative of the local health officer; people should learn to do a little thinking for themselves. Owners of houses should, therefore, see that they are disinfected. People looking for houses or lodgings should demand, as a matter of right, a certificate of disinfection before moving in, and every landlord, letting a domicile, should be in a position to assure an incoming tenant, that his premises have been recently disinfected.

The regular and systematic disinfection of every house in a municipality would be a very practical, modern and effective system of preventing tuberculosis and should receive the earnest attention of physicians and their patients as well.

J. J. C.

THE BACTERIOLOGICAL DIAGNOSIS OF DIPHThERIA.

Saturday Night, January 7th, contains the following editorial: "The country papers are publishing an item to the effect that a Walkerton doctor sent two samples of mucus, one taken from the throat of a healthy child and the second from the throat of a patient, to the Government bacteriologist in Toronto for examination, and received a telegram in reply that both samples indicated diphtheria. No doubt the bacteriologist could explain his apparently erroneous finding if he were asked to do so; perhaps the mucus from the healthy child became contaminated in some way, but at least we may assume that he was not suspecting a trick, and has by experience found it advisable to add a little caution to exactness."

If a bacteriological examination of a sample of mucus or exudate from a human throat discloses the Klebs-Löffler bacillus, has the individual from whom the sample is taken diphtheria? Not necessarily. This microbe may be present in his throat in a quiescent attitude, not attacking the epithelium, and of course not elaborating toxins. Having been exposed to an atmosphere containing this microbe, or the vicinity of persons suffering from diphtheria, such an individual, whether physician, nurse or playmate, may inhale the microbe and have it present in the mucus of his throat. As far as the bacteriologist is concerned, the sample reveals on examination and culture the microbe, which produces diphtheria. The clinician furnishing it is simply in a position to say, that the cause of diphtheria may be present in the sample of mucus, but that the individual, from whose throat it has been taken, has not diphtheria. And both are quite correct in their respective opinions. The mere existence of a germ in mucus, taken from a human throat, does not prove the existence of the disease, which may be caused by the active existence of the same microbe in the individual in question. The diplococcus of pneumonia has been repeatedly found in mucus, taken from the throats of persons who did not have pneumonia, and tubercle bacilli are occasionally pres-

ent in the nasal mucus of non-tubercular people, who have been exposed to the contagion of tuberculosis.

The fact that the Klebs-Löffler bacilli can rest, in an innocuous condition, in the throat of an individual seems to prove: that diseased or altered conditions of the tissues of the nose or pharynx are necessary, or that the power of resistance, naturally possessed by the individual, must first be lowered, before these microbes can penetrate the epithelium and the lymphatic glands, and elaborate their toxins. These opinions, however, must be considered as strong conjectures rather than truths. It remains for the practitioner to show what are the vital conditions, which precede the development of diphtheria in a patient; clinical work of that scope and nature will confer an immense benefit, by helping to fully develop the prophylaxis of diphtheria. Bacteriology does not really require this defence, for the skill of its professors in elucidating the etiology of diphtheria has removed that disease from a confusing array of different anginas, while the discovery of diphtheria antitoxin has simplified its nebulous treatment and rescued the practitioner from a condition of despair.

J. J. C.

ORIGIN OF CHRISTIAN SCIENCE.

An English investigator has discovered that Christian Science does not possess even the first merit claimed for it, namely, an origin in the teachings of Christ in the New Testament. According to this authority, the Christian Science of to-day is merely a revival of Babylonian medical beliefs of three thousand years ago. The only change of importance is that God and Christ have naturally been substituted for the ancient gods or spirits. The Babylonian of three thousand years ago had the very common and widespread belief that Nature was a realm under the sway of two camps of spirits, one benevolent, the other malevolent. According as one or the other prevailed the Babylonian was well or ill. According to his belief there was a "noxious spirit of the lung," or "heart," or "eye," or whatever member or organ might be afflicted. His treatment, like that of the Christian Scientist of to-day, was to appeal to a more powerful spirit to drive the noxious one away. In this way the Akkadian tried to cure the "wasting disease," or "noxious sputa of the lips," which we call consumption; to repel fevers, which he called the "burning disease," or "the trampler,"

who respected neither high nor low, but "rested upon the body of slave and chieftain"; by this was meant the plague with which we are now familiar in India.

In their prayers the Akkadians would describe the symptoms of their disease and then ask to be relieved. Here, for example, is the prayer of Assur-nazir-pal the first, son of Samsi-Rimman (1800 B.C.); it was offered up to "the lady of Nineveh." Put into modern phraseology, the king described his disease as an eruption of boils, accompanied by diarrhea, causing a feeling of anxiety with loss of sleep and appetite, consequently he suffered from general depression and an inability to enjoy life. A literal translation of the prayer would run: "In what have I sinned against thee? Why hast thou allotted me diseases, boils and pestilence? Is this thy just decree? As one who did honor to thy divinity am I afflicted. If I have not considered sin and evil, why am I thus smitten? In my foundations I am unloosed, I am broken to pieces, and rest I find not on the throne of my kingdom. I fasted, and what feasts I had before I grew not near. The wine libation turned to gall. From rejoicing I am withered, and from the beauties and pleasures of life I am cut off. My eyes are sealed up. I do not lift them up from the surface of the earth. How long, oh, lady, shall the disease without ceasing destroy my members?"

The Assyrians used more than mere incantations, and in this they differ from the modern Christian Scientist. In Assyria the pine cone was considered to have power to restore health and avert evil spirits. It was administered by the "Christian Scientists" of ancient Babylon to the sick, who sucked the tip of it, thus transferring to themselves its healing properties. A bunch of grapes is used in Persia with the same object at the present day, and very probably the "grape cure" for consumption in certain parts of the Continent is a continuation of the same idea. Another point of distinction between the modern and ancient "medicine man" is this: When an ancient Assyrian called in a scientist to help cure him, the latter fixed his price for the prayers, etc., but the stipulation was made of "no cure, no pay."—*Toronto World*.

EXPERT MEDICAL EVIDENCE.

Saturday Night, January 7th, disparages medical testimony, and contends that it plays a less important part in criminal cases than it had begun to do. We do not accept our contemporary's opinion.

In disposing of a charge, which concerns the life of a prisoner, it is desirable that the fullest discussion should be given to all the facts submitted, more particularly when the facts, or apparent facts, admit of different interpretations, and it is no reflection on the skill, knowledge or honesty of medical witnesses, that their conclusions are widely different. A good many expert witnesses may give evidence sustaining a contention of the Crown, which may not be demonstrable by positive evidence of fact, and an equal number of witnesses for the defence may logically and truthfully hold to a totally different hypothesis. Such medical evidence is purely matter of opinion, whose value is to be decided by the jury, according to the credence they attach to such medical opinion, and this again will depend largely on the reputed skill and knowledge, of the respective expert witnesses. Absolute certainty is one thing, probability another, and it is unreasonable to suppose that experts must agree on only one interpretation of data, which admit of several different explanations. Besides, when all is said, our system of jurisprudence reposes on different interpretations, within reasonable limits, of the same data. From the clash of opinions light springs forth, and, after discussion, there is left a reasonable probability, even in obscure cases, that a true verdict will be given.

J. J. C.

EDITORIAL NOTES.

TREATMENT OF THE PERNICIOUS ANEMIA OF THE PUERPERAL PERIOD.—A writer in *La Presse Medicale* says that pernicious anemia may develop during the course of the puerperium before the birth of the child as well as after birth or during lactation. To cure it one must not rely on iron, phosphide of zinc or hypodermic injections of quinine. The only medicine which has given beneficial results is arsenic. Arsenic may be given in three ways: by the stomach, by hypodermic injection and by the rectum. The administration of arsenic by the stomach is the method usually adopted; but it cannot be continued for a long time without exciting a feeling of burning in the stomach, loss of appetite and nausea, so much so that it is impossible to use the larger doses of the drug which are necessary in pernicious anemia. Subcutaneous injections cause local accidents, burning pains, and a temporary paralysis of the limb, whatever preparation is used, and in spite of all possible aseptic precautions. For these reasons Dr. Vinay, of Lyons, uses

injections of arsenic into the rectum. To overcome rectal intolerance, it is necessary to take the precaution to inject only a small dose each time. He uses the following solution :

R Fowler's solution 60 minims ;
 Distilled water 840 "

He injects 75 minims of this solution morning and evening at first : after four days' treatment he gives three injections a day, each containing 75 minims of the solution, in the morning, at mid-day and in the evening. When the last-mentioned doses are given, the rectal mucous membrane absorbs 1 gramme of Fowler's solution or about 1 centigramme of arsenious acid, and this dose suffices to produce a therapeutic result. But in particularly severe cases the quantity of Fowler's solution may be increased, and the following solution may be used :

R Fowler's solution 75 minims.
 Distilled water 675 "

The dose of arsenious acid is thus raised to 15 milligrammes each day in the three injections. Conjointly with the medical treatment the patient's diet should be scrupulously regulated, although the alimentation of patients of this class is not always easy. The foods which agree the best with the patient are eggs in the shell, peached eggs in bouillon, milk soups, milk, coffee, beef-tea, kephir, champagne frappé and scraped meat. Oxygen inhalations may be utilized, employing fifteen litres before meals. J. J. C.

UROTOPIN IN DISEASES OF THE URINARY PASSAGES.—We notice in *La Presse Medicale*, that urotropin, which is spoken favorably of at the present time in Germany, as the favorite medicine in diseases of the urinary passages, appears in the form of white crystals with a weak alkaline reaction, and easily soluble in water. The watery solution is of an agreeable taste and is slightly sweetish, so that patients take it without difficulty. The therapeutic indications of urotropin depend on its antiseptic properties. Thus the urine of persons, who have taken urotropin, keeps its transparency for a long time, a fact which, as is well known, is not observed after the ingestion of other medicines, which pass out through the urinary passages. The indications of urotropin as a urinary antiseptic are found in all cases of infections of the urinary passages or of the urine, viz., in pyelitis, the catarrhal cystitis of the stricture, senile cystitis, prostatic disease, and especially in cases accom-

panied with ammoniacal decomposition of the urine. In all such cases, and principally in cystitis, urotropin assists the local treatment by producing an absolutely characteristic purification of the urine. As a preventive urotropin is indicated by Elliott in cases of paraplegia, ataxia, prostatic disease, stricture, and in short in all patients who are likely to be affected with cystitis or bacteriuria. Thanks to the property it possesses of dissolving uric acid concretions it may also be used in urinary lithiasis, according to Nicolaier. It is given in doses of from five to seven grains, three times a day, after meals, in a glass of water or soda water. The smaller dose may be continued for a long time. J. J. C.

THE EMERGENCY HOSPITAL.—The Emergency Hospital, which was expected to fill a much-felt want in the case of down-town accidents and cases requiring immediate attention, seems to be developing into a sort of emporium for the free dispensing of sticking plaster. Instead of relieving the General Hospital, the new institution seems to do little but run away with its funds, in looking after trivial cases of cuts and bruises requiring merely the application of a little water and plaster. Every day some half dozen such cases present themselves for treatment at the Emergency Hospital, and the attendants are kept employ'd at petty matters, such as were not included in the category for the treatment of which the hospital was built. Whenever a down-town employee cuts his finger or sustains the slightest injury, or even an insignificant abrasion of the skin, he rushes off to the Emergency Hospital, and is supplied with bandages and water. Apparently the cases treated become more trivial daily. The Emergency Hospital was established to be used, not abused.—*Evening Star*.

ANOTHER ACQUISITION TO OUR STAFF.—We have pleasure in announcing to our readers that Dr. Alexander McPhedran, Professor of Medicine and Clinical Medicine at Toronto University, has joined us and will have charge of the department of Clinical Medicine. Dr. McPhedran is well known to the medical profession, as long since he has made his name a familiar one by his valuable contributions to various Canadian, as well as foreign, medical journals. Our readers can depend upon this department being contributed to in a very able manner.

DR. JOHN PUNTON, of Kansas City, has purchased *Langsdale's Lancet* and has changed its name to the *Kansas City Lancet*.

PERSONALS.

DR. GOLDIE has opened up in practice at 56 College St.

DR. W. W. OGDEN was elected School Trustee in Ward No. 4.

DR. J. NOBLE has again been elected School Trustee in Ward No. 2.

DR. A. H. GARRATT intends moving north soon, probably on to College St.

DR. G. A. PETERS has removed to his new residence, 102 College Street.

DR. HERBERT ADAMS made a splendid run in Ward No. 3 for School Trustee.

DR. F. S. SPENCE was elected Alderman of Ward 2 at the recent municipal elections.

DR. JOHN CREASOR has been laid up recently with the prevalent illness, but is better.

DR. JAS. D. THORBURN will shortly be moving into a handsome new house, as also Dr. A. R. Gordon.

DR. J. H. LOWE, on account of ill health, has left for England and will remain away some months.

DR. W. B. THISTLE has left 159 McCaul Street, and has taken the house on College Street recently occupied by Dr. G. A. Peters.

WE beg to tender our sincere sympathy to Detective Wasson of the Ontario College of Physicians and Surgeons, in the loss last month of his estimable daughter, who for years had charge of the Ontario Medical Library, and always made herself most popular and ever courteous to members of the medical profession. In the loss of his daughter, Mr. Wasson can feel sure of deepest sympathy from every direction.

BIRTHS.

HODGETTS—On New Year's Day, 1899, at 189 College Street, the wife of Charles A. Hodgetts, M.D., of a son.

PEPLER—On January 2nd, 1899, the wife of W. H. Pepler, M.D., of a son.

MARRIED.

At the Church of the Ascension, on January 3rd, the marriage was celebrated of Dr. Edmund St. George Baldwin, and Miss Louise Helen Montizambert, a sister of Dr. Montizambert. Miss Freda Montizambert was the bridesmaid. Dr. Montizambert gave the bride away. About a score of relatives and friends witnessed the tying of the nuptial knot by Rev. Arthur Baldwin, assisted by Rev. G. A. Kuhring.

The Physician's Library.

BOOK REVIEWS.

Rubā'iyāt of Doc Sifers. By JAMES WHITCOMBE RILEY. The Century Company. 1897.

This is one of the last of a very large number of little books of rhyme which this writer has produced with untiring enthusiasm during the past decade, and is not selected now for review so much because it in any way differs from other books by the same writer, as because it is supposed to be a character sketch of a member of the medical profession.

Medical men and medicine have of late been pre-empted more and more by the romancer and poet as a proper field for the workings of the imagination. The effect is not always a happy one. The solecisms of Hall-Caine, and the Rev. Mr. Watson's propensity for bathos are cases in point. In the present little book the only reminder one is likely to receive of the Persian poet is that which arrests his attention for a moment in the title. It would seem that the author rather fancied using the word. The quaint uncouthness of Sicilian shepherds may have had a certain charm, even in the day of Theocritus. Certainly that school of poetry has never for long been allowed to fall into abeyance. And one recognizes in Mr. Riley's verse, not anything at all new, but simply another recrudescence of that frequently superannuated form of art. It is for him in this day to be the laureate of the "Gawk Americanus." Endless gaucheries are the eternal theme of his tireless song. An apostle of bread and butter, and of eating green peas with an iron knife, he may with much truth be regarded as the hobo's messiah—and they have hailed him with unction. But there are many pretenders who also make other little books almost as domestic and plebeian as Mr. Riley's.

In the present work a bucolic personage is supposed to be telling what he knew of Dr. Sifers, or "Doc," as that person chooses to call him. There is very little of medicine in the poem, but a great deal of everything else. The doctor was fond of fishing, it appears. He no less liked shooting. He was a wonderful detective also, and had five shelves full of large books. He was extremely religious, but, like many others in the profession, had not found it profitable to go in for any one sect and make enemies of all the rest; so he posed as a very liberal thinker, and his sympathies, like his practice embraced all the creeds of the community. He also liked circuses, and wept when he heard a brass band play. For that matter, he wept upon the slightest provocation. All Mr. Riley's men do. It is more effective than when women give way to the same emotion, though his women weep quite enough, heaven knows, to satisfy Heraclitus himself. The old doctor also liked going to fires, and was fond of other people's children, finding them full of a great wisdom, by reason of their being nearer to God, and therefore clearer reasoners than adults. He had, to sum up, been through the war. One closes the book with a sense of relief, and very reasonably, for a good many painful domestic scenes which, from experience, he has been prepared to find in every book of Mr. Riley's have been mercifully withheld in this one instance. Furthermore, there are not so many "blubbing," ill-bred men and women, spouting the tawdry platitudes of their class as might have been expected, and pediatrics has been only cursorily touched upon. As a poem characteristic of the medical profession the book is a failure. It is only characteristic of Mr. Riley; but he shines at his best when he tells of the fat grocer who is melted to tears for his neighbor's little boy (deceased some years since) as he measures out the sugar, or the hysterical baggage-man on the train, who between stations thinks of his old mother, and stops chewing tobacco with a low sob. He is especially good when exploiting

the amiable ways of dead or moribund juveniles, and, as Doc Sifers offers no very tempting selection for quotation, a few lines upon this alluring subject are substituted instead. They are not, it is true, from the pen of Mr. Riley himself, but they are in the same literary taste :

LITTLE HENRY.

“ Little Henry, he can't come
 Out and beat his little drum ;
 And in school there is, I guess,
 One little feller (Henry) less.
 He haint dead though—I aint cryin',
 Don't stare so, and stop your lyin'—
 Only—hoo hoo—why can't he
 Come and play out doors with me ?

“ Maw, she says to uncle Si,
 ' Yew daon't think that Henry'll die ?'
 ' Naw, fer Doctor S. K. Falls
 Every other morning calls ;
 And his sentient eyes grow moist
 When he tells the neighbor boys t'
 Not ter holler—he affirms
 Little Henry's got the worms !'

“ Ole Doc. Bunker, allopath,
 Grumps at Falls in senile wrath ;
 But I know that *itay up there!*
 They hear Henry's uncle's prayer,
 And quite soon, I don't misdoubt.
 He again will be about—
 Put it thar—naw ! Yes ? well, rather—
 How'd I know yer Henry's father ?”

E. H. S.

The Diseases of the Lungs. By JAS. KINGSTON FOWLER, M.A., M.D., F.R.C.P., Physician to the Middlesex Hospital and to the Hospital for Consumptives and Diseases of the Chest, Brompton ; and RICKMAN JOHN GODLEE, M.S., F.R.C.S., Fellow and Professor of Clinical Surgery, University College, London ; Surgeon to University College Hospital and to the Hospital for Consumption and Diseases of the Chest, Brompton. With 160 illustrations. Longmans, Green & Co., 39 Paternoster Row, London : New York and Bombay. 1898. Toronto : J. A. Carveth & Co., Canadian agents.

With two such well-known men in the profession as J. K. Fowler and R. J. Godlee as authors of any work, it is not to be wondered at that such a book should meet with so favorable a reception. Dr. Fowler and Mr. Godlee stand very high as specialists in diseases of the chest, their opinion being considered as highly as that of any English diagnostician. This book includes what no other similar work does, viz., both the medical and surgical aspect of chest disease as given by men well able to pronounce an opinion, thus making a work, not necessarily a treatise, which must of necessity prove of the greatest value to the general practitioner. We are greatly pleased to find in this book an idea carried out (of which our editorial pages are examples, and of which we think we can say this journal has led the way in Canada, as far as medical journals are concerned), viz., that each chapter is initialled separately, the writer of it thus assuming entire responsibility for views expressed. A chapter giving the main points of the anatomy of the chest has been introduced, and very wisely so, thus enabling the reader, who may have become somewhat rusty in that subject, to brush up again without having to consult some, perhaps, old work on human anatomy which has occupied part of a shelf for a good many years back. Four chapters have been allotted to pneumonia, which has been treated

by Dr. Fowler in a masterly manner. Chapters XXVII. to XXXIII. deal with Pulmonary Tuberculosis, also written by Dr. Fowler. The chapters on Injuries of the Pleura, Surgical Treatment of Diseases of the Pleura, Dermoid Cysts and others are dealt with by Mr. Godlee.

The Sexual Instinct, its Uses and Dangers as Affecting Heredity and Morals.
By JAMES FOSTER SCOTT, M.D. E. B. Treat & Co., New York. 1899.

This work is exceedingly moral (not to say religious) in tone, and is designed for the general reader rather than the medical practitioner; entering, as it does, into a number of questions which deserve wider dissemination among the laity. The writer does not claim to bring forward any new facts upon the subjects, but only to present what is already known in an acceptable form, and in this aim he has been eminently successful. The chapters upon Prostitution, Gonorrhoea, Syphilis and Perversion are not at all extreme in their statements, while what he has to say on Abortion ought to be clearly understood in all ranks of society. In the chapter upon the "Influences which incite to Sexual Immorality," however, the writer perhaps exceeds the mark a little, and may possibly strike many as Puritanical and prudish. From the earliest times the sexes have both used innumerable arts by which to attract one another, nor can the practice be condemned, for it is one of the fundamental instincts of race, and, as Darwin repeatedly points out, many of the distinguishing characteristics of many species among the lower genera are solely to serve this purpose. The song of the bird, its plumage, the scent and color of the flower, indeed the whole world of nature is permeated with this one idea. The object of true science, moreover, is to examine and observe, not to denounce—that is for the ecclesiastic! For this reason we would like to see the word "immorality" dropped in this connection, as it indicates a question of ethics which has no place in exact science. And far be it from us (simple-living and plain men) to admit that "*That contrivance which in Elizabethan times was called a 'bum-roll,' and more recently a 'bustle,'*" is in the remotest way an "influence which incites to immorality," for I have perceived certain indications of its return into favor; and between the costumier and the Fair let no medical man, however wrapt in the pursuit of science, rashly interfere.

E. H. S.

The Cold Bath Treatment of Typhoid Fever. The experience of a consecutive series of 1,902 cases treated at the Brisbane Hospital by F. E. HARE, M.D., late Resident Medical Officer, Brisbane General Hospital, Queensland. With illustrations. London: Macmillan & Co., Limited. 1898. Canadian Agents, A. P. Watts & Co., 10 College Street, Toronto.

We are not aware of there being any other book devoted to this subject, and it is most interesting to peruse this small work by Dr. F. E. Hare, giving as he does, a most succinct account of his experience in the treatment of nearly two thousand consecutive cases of typhoid fever by the cold bath method. It cannot be said that this method is new, as it is a number of years since the hyperpyrexia of this disease was first proven to be within the control of the physician by resorting to such procedure. That in many instances life has been saved by the patient's temperature being rapidly reduced in this way is unquestionable, and we do not doubt that, and especially so in General Hospital practice, it will be considered correct treatment and resorted to more and more as time goes on. Whether it will soon come to be used in private practice is, to us, a question, as notwithstanding what the author of this book claims to the contrary, the adoption of the cold bath treatment in private cases is not only abhorred by the patients, but necessitates a great deal of extra attention on the part of the medical attendant and nurses, becoming almost a "greater burden than can be borne" in houses especially where the proper facilities are not afforded for its adoption. Dr. Hare has in his book described the routine treatment as applied to an ordinary case, then goes into the influence to be exerted by this practice upon the symptoms, course and duration of this disease, and lastly the contra-indications as well as the additional therapeutic procedures called for in special instances. The book is practical and convincing, and worthy of perusal by all practical therapeutists.

The Treatment of Diseases of the Skin by Means of Minor Surgery and Physical Agents. Lessons given at the Broca-Pascal Hospital, by Dr. L. BROCCO, physician of the hospitals. Compiled by Dr. DEHU. One volume in 8vo, of 288 pages, with twenty illustrations, bound in limp covers. Price, 6 franks. Georges Carré et C. Naud, editeurs, 3, rue Racine, Paris.

Ever since their introduction into dermatological therapeutics, surgical methods have been adopted with a constantly increasing favor, and their applications are continually becoming more numerous. It is important, therefore, that every practitioner should know them, and be able to use them should the occasion present itself. A physician who lives in a large city and can attend at a hospital clinic of skin diseases, finds it an easy matter to learn from the instructions of a professor, and become familiar with the operative methods adopted. Another, not so fortunately situated, if desirous of performing some slight operations, is embarrassed and hindered by small, unforeseen difficulties.

For instance, on consulting, in a given case, his treatise on diseases of the skin, he finds scraping and scarification recommended, but this simple indication gives no real information of the means required in order to realize the treatment. How should the operation be done? What instruments should be employed? How are they to be used? Should anesthesia be used, and what method? What kind of dressing should be applied?

Dr. Brocco's recently published work answers all these questions. Besides, it contains a summary of the personal experience of the author in all that relates to the surgical treatment of diseases of the skin. Not only the technical procedures, but also the indications and the results of each method are explained with that precision and carefulness in details, which are characteristic of the teaching of the eminent professor of the Broca-Pascal Hospital.

A Text-Book of Obstetrics. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. With 653 illustrations. Philadelphia: W. B. Saunders, 925 Walnut Street, 1898. Toronto: J. A. Carveth & Co.

Though it cannot be claimed for this book that there are many features essentially new and which are not found in many other books on this subject, yet it is safe to say that the work of the author, who is eminently fitted to take his pen and give the younger generation of practitioners the result of his experience for between ten and fifteen years of active practice, has been done in a manner which, we feel sure, will prove of assistance as well as interest to its readers. The book has been subdivided into five different parts: Part I. treats of Pregnancy, under which heading the anatomy of the pelvis and female sexual organs, menstruation, the development of the embryo, the foetal appendages, diseases of the fetus, physiology of pregnancy and the pathology of the pregnant woman are dealt with. Part II. treats of the Physiology and Management of Labor and of the Puerperium; Part III., The Mechanism of Labor; Part IV., The Pathology of Labor; Part V., The Pathology of the Puerperium; Part VI., Obstetric Operations; Part VII., The New-born Infant. The book is well condensed, no part being allowed to occupy greater space than its importance will allow. There are a large number of excellent illustrations, most of them having been taken from original photographs. This is well shown, especially on page 263, where three of the clearest illustrations (a ruptured broad ligament pregnancy) we have ever seen will be found.

Black-Board Heading used in the Lectures on Surgery. By ROBERT F. WEIR, M.D., Professor of Surgery in the College of Physicians and Surgeons of Columbia University. Edited by Drs. A. L. WOLBARST and G. A. SAXE. New York, 1898.

This little book will interest all the pupils of the master of surgery, of whose teaching it is an exponent. As a guide to the study of surgery it is both convenient and useful. The book contains a series of tables on general and regional surgery which Dr. Weir has been in the habit of placing on the black-board before his class. The book is carefully edited and printed. The chapters

on antiseptics, tumors, genito-urinary diseases, and injuries of the brain, are especially complete. We note that no antiseptic action is credited to boric acid. Formaldehyde and the silver salts are given prominent places among the antiseptics. Iodoform ointment is said to be inert. For disinfecting the hands, Dr. Weir advocates the use of chlorine in nascent state by a mixture of washing soda and bleaching powder. Under refracture for vicious union, the term "dysmorphosteodiaclassis" is used, probably as a joke. The rules for trephining are very complete and well arranged. Under subhyoid bursitis we notice an original method of excision. The bursa is filled with melted paraffin and the latter allowed to get hard, then the paraffin is excised with the bursal sac.

L. F.

Archives of Neurology and Psychopathology. State Hospitals Press, Utica, N.Y. 1898.

After a slight delay the first two numbers of this publication, which was promised in the final number of the *State Hospitals Bulletin*, has just appeared, and exceeds in every way the utmost expectation of the many friends which, in its two years of publication, the *Bulletin* had won for itself. As an example of the printer's and binder's art, justice cannot be done to it by merely asserting that it is the most esthetic medical publication we have ever had the pleasure to examine. Accustomed, as most medical men are, to the extreme plainness which characterizes the press work of many medical publications, the work in question, which almost surpasses the Johns Hopkins Press, may well be a matter of some pride to the profession, and of particular interest to the alienist, inasmuch as a great part of the work of the State Hospitals Press is done, we understand, in an institution.

The literary merit of the initial numbers is in every way up to the artistic charm, and contains a short paper on "Psychomotor Manifestations," and an exhaustive article upon the "Correlation of Sciences in the Investigation of Nervous and Mental Diseases." A most interesting table of contents is promised also for the forthcoming numbers; and it is not too much to say that the "Archives of Neurology" will enjoy a popularity commensurate with its sound value as a contribution to the permanent literature of psychiatry. The subscription price is only \$3.00 a year.

E. H. S.

Primer of Psychology and Mental Diseases. By C. B. BURR, M.D. The F. A. Davis Co., Philadelphia.

It would be hard to find a more satisfactory volume than the present one to place in the hands of those who are preparing themselves for the care of the insane in institutions. In the course of study of nurses in General Hospitals, also, some knowledge of this subject is certainly much to be desired, as many otherwise excellent nurses become panic-stricken and singularly inefficient when confronted with a simple case of mania or melancholia. Furthermore, many private persons would be much benefited with the outline herein contained; for all cases of mental derangement are not sufficiently severe to indicate removal to an institution, but are of the benign character observed in the cases of Buddha, Zoroaster and St. Francis of Assisi; yet, while they do not call for active restraint, they certainly require the most intelligent domestic treatment possible. Following a short chapter on Psychology, there is a clear epitome of the more familiar forms of mental aberration: the remainder of the volume being taken up with a number of useful hints as to the care of the patient, his peculiarities and his special needs.

E. H. S.

Drs. Harvey and Davidson's Syllabus of Materia Medica, revised in accordance with the British Pharmacopœia, 1898. By WILLIAM MARTINDALE, F.L.S., F.C.S., Member of Council of Pharmaceutical Society and late Examiner; joint author of "The Extra Pharmacopœia." Tenth Edition. London: H. K. Lewis, 136 Gower Street, W.C. 1898.

In past years this small booklet of Mr. Martindale's has proved a blessing to many students who presented themselves as candidates for degrees in medicine

and surgery in the University of Aberdeen and elsewhere, its purpose having been "to define and limit the area as well of instruction as of examination in the *Materia Medica*," and thus abridge their labor to a remarkable degree. It is a most useful guide to study in this subject, and a great assistance in remembering the more important articles and preparations in "The *Pharmacopœia*," having been revised in accordance with the most recent edition of that book.

Illustrations of the Medical Faculty, McGill University. E. M. RENOUF, Montreal.

This series of illustrations, published by permission of the Faculty, of the McGill buildings and the various lecture rooms, as well as portraits of the various professors, will, no doubt, be of interest to former students. J. M. M.

Our esteemed contemporary Dr. Probst, Secretary of the Ohio State Board of Health, and editor of the *Ohio Sanitary Bulletin*, was unable to issue the November number of his valuable publication owing to the fact that during the thirty days of the month he was absent from his office twenty-five days. His leave of absence was not of an enjoyable nature, inasmuch as his time was taken up in striving to put down an outbreak of small-pox. We are pleased to learn that the local health authorities in Ohio have the disease well under their control. J. J. C.

PAMPHLETS, REPRINTS, ETC., RECEIVED.

"Are Complete Castrates Capable of Procreation," by F. R. STURGIS, M.D., New York.

"Studies of the Healing of Wounds, with Special Reference to the Iodine Preparations," by Prof. N. ZUNTZ and E. R. W. FRANK, M.D.

"The Radical Cure of Inguinal Hernia by Fowler's Method, with Report of Cases," by H. O. WALKER, M.D., Detroit.

"Chronic Catarrh of the Stomach," Chas. D. Aaron, M.D.

"Stomachic Disturbances Caused by Hernia of the *Linea Alba* in the *Epigastrium*," Chas. D. Aaron, M.D.

"Intestinal Auto-Intoxication," Chas. D. Aaron, M.D.

"The Antitoxin Treatment of Diphtheria," H. K. Mulford Co., Philadelphia.

"Transillumination of the Stomach with Demonstration on the Person," Chas. D. Aaron, M.D.

THE *Philadelphia Medical Journal* has taken another decidedly advanced step in deciding to shut down on all exchanges from the first of the current year. As one journal puts it, "this may save apparently and be a losing policy actually."

DR. JAS. MOORES BALL has retired from the editorship of *The Tri-State Medical Journal and Practitioner*, and has been succeeded in that capacity by Dr. Warren B. Outten, of St. Louis, Mo. The special Xmas number of this journal is a credit to any staff. We heartily endorse their sentiments in reference to their Christmas issue when they say, "Our Xmas number may strike some as non-medical; but we believe in living as time slides along, and we think the doctor is entitled to a little fun—once a year."

A WONDERFULLY PROMPT REACTION TO A SINGLE DOSE OF ERGOT.

BY DR. STANLEY S. CORNELL, ATHENS, ONT.

A SHORT time ago I was called by my friend, Dr. Mallory, of Delta, Ont., in consultation upon a case of abortion at the third month, in a woman aged twenty-nine years. The doctor had dilated the neck of the womb so as to facilitate the passage of the ovum into the world; but almost coincidentally with the completion of his operative work, the contractions of the womb ceased. As a result, no expulsion of any part of the oval structures occurred. At the time of my arrival, four hours after the completion of the doctor's operative work, the following conditions were noted: Pale attenuated patient, with rapid, feeble pulse and rather cold extremities and relaxed muscles; an atonic uterus distended with an ovum three months old; a dilated womb-neck, emitting a blood leak that might at any minute develop into a serious flooding.

Now, here is the interesting part of my narrative: Dr. Mallory wished me to remove the ovum, and this could be done only with the aid of the curette. The operative work in itself offered no difficulties, because the mouth of the womb was fully dilated and relaxed; but there was reason to fear that the dislodgement of the placenta at its fundal attachments would result in great blood-loss, and that this blood-loss might prove extremely dangerous, if not fatal, to the patient.

My hands had already been scrubbed with soap-suds, and it was only necessary that I should give them a two-minute soaking in perchloride of mercury solution. Let me repeat a description of the conditions: Extremely anemic patient; contract unless and dilated womb; presenting ovum at the third month; womb bleeding to a considerable extent.

At the instant of immersing my hands in the mercuric solution, I told Dr. Mallory it would be well to administer a prophylactic dose of ergot; that the therapeutic effect of the ergot would not be manifest for at least twenty minutes, and therefore would not interfere with the manipulations inside the womb. The dose (one teaspoonful) was given. At the end of two and a half or three minutes—certainly at the end of three minutes at the longest—I turned to the womb, and to my utter astonishment the cervix was nearly closed. My fingers quickly ran over the front, back and lateral walls of the womb, a procedure rendered easy by deep pressure over the lower belly with one hand, and deep insertion into the vagina with the other, and detected the most perfect longitudinal tonic contractions of the womb muscle. I should not call this rapidly increased tonicity by the term contractions; it was one regular, steady, firm, reassuring, never-to-relax-again condensation and shortening of the muscular fibres of the womb; it was like some great force previously pent up and philosophically held in readi-

ness, sent out with the predetermination to properly meet the extreme circumstances of a destructive movement set up by the enemy.

Without saying more of the particulars of the case, I must add that the issue was a fortunate one. I knew that the rapid uterine contraction in this case was developed by the teaspoonful of ergot; it was Dr. Mallory's ergot, manufactured by Parke, Davis & Co. The doctor told me it was "P., D. & Co.'s Normal Liquid Ergot," and that its action was uniformly powerful and prompt. Preparations of ergot used by me in the last twelve years have never given me results comparable with those obtained by that one dose here described. The effect in the case recited was marvellous.

This is the first tribute in particular terms I have paid any firm, and I should certainly not give it in this instance, did I not believe the truth of what I have said.

A GENEROUS CONTRIBUTION TO THE FUND OF THE JUBILEE WING OF THE WINNIPEG GENERAL HOSPITAL.

WHEN the managers of the Winnipeg General Hospital undertook to raise \$50,000 for the Jubilee addition to that institution they realized it was no easy task that they had set themselves to accomplish. The people of Manitoba already felt that they had been fairly well taxed for this institution and it was with considerable difficulty, therefore, that some \$37,000 was raised towards the amount needed, and this seemed to be about the limit which Manitoba was capable of giving. It was with a great deal of satisfaction, therefore, that the information leaked out last spring that some philanthropic gentleman had contributed \$13,000 to the hospital fund, a sufficient amount to make good the \$50,000 promised for the Jubilee addition.

The generous contributor of this amount was as modest as he was philanthropic, and would not allow his name to appear in connection with the gift. It has, however (as such things are apt to do) leaked out that Mr. W. W. Ogilvie made the contribution, and a representative of the *Telegram* called upon Mr. F. W. Thompson, Mr. Ogilvie's manager, in Winnipeg, to obtain confirmation of the rumor.

"Yes," said Mr. Thompson, "the rumor is correct. Mr. Ogilvie has always felt a deep interest in the Winnipeg General Hospital and believes it to be one of the most deserving of Manitoba's institutions. He has shown his appreciation of it on a number of occasions by substantial contributions, and he seemed to take much pleasure on this occasion in making up the balance of the \$50,000 necessary to complete the Jubilee addition. He did not design that his name should appear in connection with it, but it has somehow or other leaked out, and now seems to be generally known. I see no reason why any further attempt at concealment is advisable."

A short time ago, Mr. Ogilvie paid a visit to the hospital and was received there by a number of the directors. The special object of his visit was to see the new wing which is now nearing completion. It is generally admitted that had it not been for Mr. Ogilvie's splendid generosity the directors could never have undertaken the erection of so large or so fine a building as is now being put up.

THERAPEUTIC NOTE.

DR. GOTTSCHALK, of Frankfort, reports (*Brit. Med. Jour.*, No. 1828, p. 7) the results from the use of Stypticin in forty-seven cases of hemorrhage. It may be given hypodermically (in urgent cases), or per os in solution or gelatin pearls. Dr. Gottschalk finds that 0.05 gm. ($\frac{1}{2}$ grn.) may be taken five or six times a day without any untoward effects. It has a great advantage over hydrastinine and other uterine hemostatics, in that, as might have been expected from its source, it possesses a well-marked and potent sedative action that is both local and general, and hence specially indicates its use in dysmenorrhic affections. Stypticin promptly checks hemorrhage resulting from pure uterine subinvolution—that is, that due to muscular atony and not to retention of membranes, etc. In fungous endometritis it is a valuable adjuvant to the curette; and it is very useful when the patient objects to curetting, and particularly in those cases in which this treatment does not stop the hemorrhage. It is also useful in bleeding caused by fibroids or the climacteric. In purely congestive menorrhagia it is well combined with hydrastinine. In menorrhagia the drug is best given four or five days before the period, 0.025 to 0.05 gm. ($\frac{1}{8}$ to $\frac{1}{2}$ grn.) four or five times a day, and continued until bleeding ceases; this not only diminishes the hemorrhage, but also renders the use of much smaller doses sufficient.

In violent hemorrhage Stypticin should be given hypodermically, according to the following formula:

Stypticin	1 gm. (15 grn.)
Distilled water	10 gm. (150 min.)
Inject daily 2 cc. (30 min.) into the gluteal region.	

Stypticin is powerless to control the bleeding of uterine polypi, and is contra-indicated in threatened abortion, or, indeed, in any of the hemorrhages of pregnancy, as it has a marked power of stimulating uterine contractions. This may be induced by it directly, or it may result indirectly from the anemia produced by its vasoconstrictor action.

In all of Dr. Gottschalk's experiments no other treatment than that of Stypticin was adopted.

Stypticin (chemically, Cotarnine Hydrochlorate) is obtained from the opium alkaloid narcotine by the action of oxidizers. Its formula is $C_{12}H_{11}NO_2 \cdot H_2O \cdot HCl$, and it occurs as yellow crystals or powder, readily soluble in water and in diluted alcohol.