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THE

MONTREAL MEDICAL JOURNAL.

VOL. XXI. APRIL, 1893. No. 10.

Original Communications.

NOTE ON ARSENICAL NEURITIS FOLLOWING THE USE OF FOWLER'S SOLUTION (℥4 ʒ1 ♏18).*

BY WM. OSLER, M.D., F. R. C. P., LONDON.

During the first few years of practice I was in the habit of using arsenic somewhat sparingly, but after the appearance of Bramwell's paper in 1877, on the use of this drug in pernicious anæmia, I began in the cases which came under my observation to use it more freely, and since that time in various forms of anæmia, in leukæmia, in Hodgkin's disease, and chorea minor I have used it in what might be called large doses. My rule has been to begin with two or three minims three times a day, and gradually increase the dose every four or five days until the patient took ten, fifteen or twenty minims of Fowler's solution three times a day. I preferred to see the physiological effects, either itching of the skin, slight œdema, an attack of vomiting, or diarrhœa. The quantity which will induce these symptoms varies in different individuals, and in the anæmia cases those who bear the drug best seem to improve the most rapidly. The largest doses I have given were in a case of pernicious anæmia, in which the patient had taken during his primary attack with the greatest benefit for several weeks twenty minims of Fowler's solution three times a day; and had reached in his relapse thirty minims three times a day, when at the end of a week he had an attack of itching of the eye lids, and œdema over the eye brows.

* Read before the Johns Hopkins Hospital Medical Society, February 20th, 1893.

In the chorea minor of children, who, as is well known, stand arsenic well, it is a common experience to find that twelve and fifteen minims of the liquor arsenicalis may be given daily without ill effects. Until two years ago, though I had often seen the symptoms of saturation above referred to, I had never seen any serious toxic symptoms referable to the nervous system, but we had at that time in the ward a patient with pernicious anæmia who had taken for a long time large doses of Fowler's solution, and under its use had feelings of numbness and tingling in the feet and legs, which we thought might be due to the arsenic. This may not, however, have been so, since these advanced cases not infrequently have sclerosis of the posterior columns of the cord, in connection with which loss of the knee jerk and sensory changes in the legs may develop. I have repeatedly in my clinics and ward class talks referred to the apparent harmlessness, so far as my experience went, of Fowler's solution.

On October 25th, 1892, the patient before you was admitted to my wards with Hodgkin's disease, the cervical, axillary, and inguinal groups of glands being involved. Having had under observation for now nearly four years a case of this disease, which has been remarkably benefited by the prolonged use of Fowler's solution taken at intervals, we naturally placed this man upon the same drug. The details of his case, so far as they relate to the lymphatic disorder do not concern us. The arsenic was begun on October 27th, given as Fowler's solution, and gradually increased. He took it on the first occasion for ten days; it was then resumed on November 14th, and in two weeks the dose reached fifteen minims three times a day. Towards the end of November it was noted that his skin, which was naturally of a somewhat dark colour, had a much deeper tint, and that of the abdomen was very distinctly bronzed. Throughout the month of December he did not do well. The arsenic was stopped on the 19th, and begun again on the 27th. From the outset the patient has had that interesting feature in many cases of Hodgkin's disease, an intermittent pyrexia, and as may be seen by his last week's chart, the

temperature rises every afternoon and evening to about 104°. The pigmentation seemed to increase throughout December. Twice during the first two months of his stay in hospital there was slight diarrhœa, which was attributed to the arsenic. About the middle of January it was noticed that he was tender to the touch, and walked somewhat stiffly. He is a Pole, speaking no English, and as there was no one in the ward to interpret for him, these symptoms did not perhaps at first attract the attention they deserved. The most striking feature at this time was the sensitiveness on pressure. The skin itself did not appear to be painful, but if, for example, the arm was grasped, or the pectoral muscle lifted, or the thigh pinched, he winced and tears came into his eyes. By the end of January he walked with much difficulty, and could scarcely go from his bed to the closet. He has naturally, in the course of his disease, wasted a good deal, but the legs seem to have become distinctly more flabby within the past two or three weeks. The knee jerks, which were present on January 10th, are now absent.

On February 2nd, Dr. Hoch reported the faradic excitability of the nerves of the leg was diminished, the galvanic also to a slight extent. In the muscles the diminution to both currents was more marked, and the contraction following the galvanic stimulation was decidedly slower and the anode, if not larger, was at least equal to the K. C. C. The muscular power in the arms is not so strikingly diminished, though the grasp is feeble in comparison with what it was. The hyper-sensitiveness of the muscles does not appear to be at all diminished.

Between the 27th of October, and the 10th of January, this patient took ʒ4 31 ♏ 18 of the liquor potassæ arsenitis, equivalent to about 16½ grains of arsenious acid. During these seventy-five days there were fourteen days in which the drug was omitted. The marked sensory changes, the gradual impairment of muscular power, and the progressive character of the symptoms indicate very clearly the peripheral and neuritic nature of the affection; and though he has a chronic cachexia, in which, as in cancer or tuberculosis, neuritis might develop, yet it seems more rational to attribute it to the somewhat

prolonged use of the arsenic, more particularly as he has had also another striking feature of arsenical poisoning, namely, pigmentation of the skin.

Arsenical neuritis from accidental poisoning is not very uncommon. Less commonly it results from accidental contamination in certain occupations. It is claimed by Folsom, Putnam, and others in Boston, that cases may be of "domestic origin," that is, due to the absorption of extremely small quantities of arsenic with the dust from wall papers, carpets, or curtains. Cases such as the one reported this evening, in which the toxic symptoms have developed in consequence of the administration of arsenic as a medicine are in reality extremely rare. A few years ago Dr. J. J. Putnam collected a series of cases in which serious poisonous effects had followed the long continued use of medicinal doses. A majority of them cannot be said to be very satisfactory, as the reports are imperfect as to the amount taken and as to the symptoms. Among the cases referred to are, however, some which would indicate very clearly that the prolonged use of even moderate doses may cause symptoms of a wide-spread neuritis. Individual idiosyncrasy plays, no doubt, an important role; tolerance may as a rule be established, as with the Styrian arsenic eaters, but such cases as the one before you show that we must be on our guard in the protracted administration of the drug.

HÆMORRHAGE IN THE NEW-BORN, WITH AN ILLUSTRATIVE CASE.*

F. A. L. LOCKHART, M. B., EDIN., ETC.

Fellow of the Edinburgh Obstetrical Society; late Clinical Assistant in the Gynecological Wards of the Edinburgh Royal Infirmary

Mr. President and Gentlemen:—The following is not an attempt at an exhaustive treatise upon the above named subject, but merely a report of a case of rather a rare form of this troublesome condition.

Cases of hæmorrhage from the vagina of female infants, or from the cord, are not at all unfrequently met with, nor is it very rare to observe a newly-born infant vomit a mouthful of blood, but I hope that you will agree with me that the following case is sufficiently unique to warrant my reporting it before this learned assembly, in order that more light may be thrown upon the cause, symptoms and treatment of this form of hæmorrhage in infants.

Case report.—On the night of April 18th, 1892, I was called in to see a patient during her confinement. On arrival, I found that the patient had been in labour for eight hours and a half, and that the waters had come away five hours and a half previously. The pelvis was roomy, but the patient was very fat and flabby and unaccustomed to any exertion, and there was some tendency to anteversion of the uterus. The head presented with the occiput to the left side and anterior, but was large and was retained at the brim. The patient's regular medical attendant and an assistant had attempted to deliver her by means of the ordinary Simpson forceps, but they had slipped several times, so had to be abandoned. We discussed the advisability of turning the fœtus, but, before doing so, thought it best to try the effect of axis-traction, so Milne-Murray's axis-traction forceps were applied and the child was extracted with comparatively little exertion. There was no hæmorrhage after the birth of the child and the placenta came away quite readily. This structure, however, was of interest, as the maternal surface was studded with calcareous particles, as was also the case in this patient's previous confinement.

* Read before the Canadian Medical Association, at Ottawa, September, 1892.

The fœtus was a well nourished female which weighed about eight and a half pounds and had a large head. It was asphyxiated at birth but was speedily restored by artificial respiration. There were no marks of violence to be observed on the infant, although it was very carefully examined for them, as it had been exposed to such risks by the pressure of the forceps. The caput succedaneum was unusually large, while the cord was of normal size, length and consistence. The mother made an uneventful recovery, but unfortunately the result was different in the case of the infant.

On the afternoon of the second day, I was telephoned for by the patient's husband, and on arrival found that the child was bleeding from the alimentary canal. The hæmorrhage had started from the anus on the afternoon of the previous day, *i. e.* when the child was twenty-four hours old, and when I saw it blood was coming from the mouth, nose and anus, but none from the eyes, ears or vagina. From the anus, it oozed almost continuously, while it came in gushes from the mouth and nose, as if being vomited up. The blood was dark and venous looking and showed no tendency to clot. The mouth was carefully examined to ascertain whether or not there was any breach of continuity of the mucous membrane, as from a fractured jaw, etc., but none could be discovered. In one or two places at the sides of the head the scalp was bruised, and subcutaneous ecchymoses were present. The caput succedaneum was still large, and also very soft and fluctuating. No cerebral symptoms were discoverable, there being no paralysis, and the eyes re-acted normally. The child was somewhat restless and had not slept very well, but its suction power was very good and it took the breast readily. The mother said that the child changed colour very frequently and that the change was very rapid, it being livid one moment and the next one it would be quite pallid, but none of these changes occurred during my visit. The heart sounds were normal but weak, as was also the pulse. Examination of the chest and abdomen gave negative results, and there were no spots of any kind upon the limbs.

No treatment beyond the wrapping up of the limbs in cloths had been adopted before my arrival. I ordered the child to be given 5m. of fluid extract of hydrastis Canadensis every three hours, and to have cold cloths kept constantly applied to its abdomen. The case then passed out of my hands as I gave it up to the patient's regular attendant, but I heard that the child died a few hours after my visit. My reason for giving the hydrastis was to try and check any oozing that might have been occurring from the intestinal capillaries. It is greatly to be regretted that no *post mortem* examination could be obtained in this case, as it might have yielded valuable results, and would have shown any injury to the skull that might have been present.

The question now to be considered is, from what did the child suffer? Was the hæmorrhage due to injury, abnormality of some organ, such as the heart, or to some abnormal condition of the blood itself?

It can scarcely be attributed to a fracture of the base of the skull, as there were absolutely no head symptoms. If a fracture into the anterior fossa had occurred, you would have been pretty sure to have observed bleeding from the eyes, as well as some pressure symptoms, while if the fracture had taken place through the middle fossa, blood would have flowed from the ears.

A possible cause, in my mind, is some obstruction in the portal circulation, preventing the return of blood to the heart, and so causing an increased backward pressure. This proved to be too much for the gastric and intestinal capillaries which gave way in consequence. If this had been the only condition present, the blood would have coagulated as soon as voided as well as in the alimentary canal, whereas it showed but little tendency to clot. From this last fact, I should judge that there was some altered condition of the blood itself, such as you get in hæmophilia. In order that this case may be compared with one of true hæmophilia in the new-born, I will narrate the following case, reported in the *British Medical Journal* for March 21st, 1891, by Dr. Jardine, of the Glasgow Maternity

Hospital. The patient was delivered of her third child in January. The labour was normal with very little hæmorrhage. The child was weakly looking and had the appearance of being somewhat premature. In a day or two, it became somewhat jaundiced. On the eighth day, the cord separated and there was no hæmorrhage, but it began on the ninth. This was merely an oozing, which stopped soon, but in a day or two, hæmorrhages appeared elsewhere, and the child was noticed to bruise remarkably easily. Subcutaneous hæmorrhages also occurred. The child died on the twentieth day. The mother is not a bleeder, but her husband and other children suffer from frequent attacks of epistaxis.

In arriving at a conclusion regarding the causation of the hæmorrhage, in this case, one may be assisted by the following cases of a similar nature.

I. Emerson, in the *New York Medical Journal*, reported a case, the symptoms in which resembled those observed by myself. After an easy labour, a male child, weighing 8½ lbs., was delivered. At the expiration of thirty-three hours the infant began to spit blood and mucus, and kept on doing so at intervals for eight or nine hours. Before the blood came from the mouth, dark tarry material was voided from the bowels. Neither food nor medicine could be retained on the stomach, but was immediately vomited. Death took place in about five days. The post mortem revealed a dilated stomach and duodenum, the latter being enlarged as far down as the orifice of the common bile duct, where it became so narrow as to only admit a small probe. The immediate cause of the hæmorrhage here was a thrombus in the wall of the œsophagus, below which the mucous membrane was eroded.

II. A case of hæmorrhage from the bowels of a new-born child is reported by Brown in the *British Medical Journal* for September 14th, 1892. The infant, whose sex is not mentioned, was thirty-two hours old when blood began to flow from both mouth and anus, and continued to do so for twelve hours. Hamamelis was given and the bleeding ceased, the child recovering.

III. Bourrus mentions a case where an infant, eight days old, died from hæmorrhage from the intestine, but this was shown to result from an ulcer.

IV. Hodge relates a case in which hæmatemesis occurred in a child six hours old. Hazeline, in ten minim doses, stopped it and the child lived He attributes the hœmorrhage to a fracture of the base of the skull, but, if that was the case, hazeline could scarcely stop it.

In three of the above four cases, the hæmorrhage took place from the alimentary tract, two recovered and two died. Once it was due to an intestinal ulcer, once the cause was unascertained, and once it was due in some way to stenosis of the duodenum. I am inclined to link the case which I have to day reported to this latter, as they possess several features in common. Emerson says that dark, tarry, grumous material was voided from the rectum before the blood appeared at the mouth as in my own case, and in both it was voided from both mouth and anus at intervals. Although the child was apparently well developed and healthy, I am inclined to think that there was some mal-development of some one or other of the internal organs, and that it was not a case of true hæmophilia. As to whether or not the calcareous material in the placenta interfered with the proper interchange of substances between the fœtal and maternal blood, and so produced a condition of the blood which was unfavourable to its clotting, I would not care to express an opinion, but would like to hear what some of the gentlemen present think upon the subject.

A FEW NOTES ON APPENDICITIS.*

By G. McDonald, M. D., Calgary, Alberta, N. W. T.

Our knowledge of the pathology and treatment of appendicitis has been of such recent growth that I trust these few notes, with the history of some interesting cases in practice, may not prove unacceptable to the members of the association.

The literature on this subject has of late become so extensive, witness the accumulating mass of matter appearing weekly and monthly in our periodicals from the pens of scientific authors, as to make the general practitioner of junior years rather hesitate in advancing any further lines in this direction; yet, as each case of appendicitis is likely to reveal to us something claiming special attention and interest, I have quoted notes of three cases which, though not by any means unique, may in some of their clinical features prove interesting to a few hearers.

Beyond this I shall limit myself simply to a few notes on the treatment of appendicitis as viewed at the present day.

The first case I shall mention proved of remarkable interest to me from a diagnostic point; the question meeting me as to whether I had an appendicitis or a pelvic inflammation, referable to one or more of the reproductive organs, to deal with? Though I leaned towards the former opinion and treated the case as such, yet I did not feel secure in my diagnosis until a subsequent attack of undoubted appendicitic origin led me to believe I was correct.

The patient, Miss D., aged 13½ years, was taken ill on the afternoon of the 8th January last with a severe chill, followed later on by pain in lower abdominal zone, increasing in severity throughout the night.

I was called in at 10 a.m. on 9th January, and found patient in considerable pain, with marked tenderness in right iliac region, and rest of abdomen tender only on deep pressure. No induration or perceptible dullness in right iliac region. Patient is constipated and has always been more or less so. Has had no vomiting or nausea.

* Read before the Canadian Medical Association, at Ottawa, September, 1892.

I noticed that she lay with right leg drawn up slightly, and says she has more ease in this position, while extension aggravates the pain. Temperature 102½° F; pulse 125, small and tense. She has had the ordinary diseases of childhood, as measles, whooping cough and scarlet fever, but otherwise has always enjoyed good health, but is of a scrofulous family.

The patient herself says that getting her feet and legs thoroughly wet while skating was the cause of the attack. She went through the ice of the pond on which she was skating during the afternoon, after which she walked home getting thoroughly chilled on the way. Late in the afternoon she had a decided chill which was thought to be only a severe cold. Her increasing pain alarmed her parents, and when I arrived her condition was as mentioned.

Menstruation has not yet been established, though it is about the usual age for the onset of this function in our climate. The question then that occurred to me was: Had I an appendicitis or some disturbance of the reproductive organs due possibly to a repression of an oncoming menstrual epoch by the wetting she had received?

The age of my patient precluded all idea of vaginal examination unless of absolute necessity, and I also omitted rectal examination.

After careful consideration I concluded that I had a case of appendicitis to deal with, but until the second attack I had some little doubt as to the correctness of my diagnosis. This doubt was still more marked when, two months after first attack, menstruation was established and was accompanied by pain, not very severe.

The treatment was absolute rest in bed, internally sufficient opium to allay pain, warm water injections by the bowel daily, and a blister followed by poulticing to iliac region. Diet, milk and beef tea.

At 5 p. m. same day, 9th, temperature had fallen to 100° and pulse to 110, more compressible.

10th January.—Feels very comfortable; tenderness in iliac fossa not so acute; temperature 95 3-5°; evening temperature 100 4-5°; cold sponging morning and night in addition.

11th.—Still improving; morning temperature 99°; evening 99 3-5°.

12th.—Morning 98°; evening 98 4-5°.

Recovery steady from this time. The tenderness kept up for about a week later, gradually fading away.

Patient remained in good health until 25th July, when she was seized with sudden pain in right iliac region. This time she had no chill. No vomiting. Is constipated. Temperature 103° in evening. Pulse 130, small and tense. Tongue furred. Vomited once while I was in. This is the only time she has vomited. Decided tenderness in region of appendix. Maximum intensity corresponding to McBurney's point. She was placed on light fluid diet, rest in bed. Ice bag to right iliac region morning and evening, enema of warm water and morphia sufficient to subdue pain.

24th.—Temperature 100°. Pulse 99, full and soft. Abdomen still tender.

25th.—Temperature 98°, and markedly improved.

Tenderness rapidly diminished, and on 28th she was moving about quietly.

This second attack I concluded to be a recurrent appendicitis and a confirmation of diagnosis in the former case. I should like to hear further opinion on the case from any of you who are more conversant with this subject of appendicitis in its many and varied phases.

The second case I shall make mention of was that of Mrs. C., age 33, married, and has family of five children. Left Ontario to join her husband, north of this place, and arrived in Calgary on 13th April last.

On the morning of 12th April, she was seized while on the train with violent vomiting, severe pain in abdomen and diarrhœa. Had no chill. These symptoms she attributed to eating too many pickles for breakfast. Reaching Calgary on the 13th, she was directed to my office. The vomiting had ceased, but there was still a little diarrhœa. Marked tenderness in right iliac fossa, with a point most exquisitely sensitive about 2½ inches from anterior superior iliac spine and somewhat

below a line from spine to umbilicus. Tongue furred. Temperature 101½° F. Pulse 100. Slight induration in right iliac fossa, of which at the time I felt doubtful. Diagnosed appendicitis.

Patient would not go to hospital, but insisted on going to a boarding house until her husband arrived. I explained to her the seriousness of the trouble, and recommended absolute rest, ice to fossa, morphia internally and liquid diet. I told her to acquaint me with her place of abode in the evening, and this she promised to do.

I heard no more of this patient until 25th, or twelve days later, when I was sent for in a hurry. I found her quite prostrated in a miserable lodging house.

I learned that two days after seeing me, finding that she was getting worse, she requested her landlady to send for me; this the landlady neglected to do, but called in a physician whom she was in the habit of consulting. Still getting worse she dismissed him on 23rd, between which time and evening of 25th, her case was conducted by some old women in the house. On the night of 25th, finding herself decidedly weaker, suffering great pain and having recurring chills, I was hurriedly called in. Found patient very weak. Temperature 104°. Pulse 128, small and weak. Tongue somewhat dry and furred. Constipated for three days. Great pain on micturating. Some tympanites, and a well marked tumour in right iliac fossa, somewhat larger than an orange and approaching well towards middle line of abdomen.

She had not urinated for twenty-four hours. Thinking tumour might have something to do with a distended bladder, I passed a soft catheter, and removed about four ounces of a highly coloured urine having a strong pungent odour.

Vaginal examination revealed a large tumour in right fossa, entirely separate from pelvic organs.

Diagnosed a perforative appendicitis with localized abscess formation and circumscribed peritonitis.

Patient given stimulant, warm water enama, opium and nourishing diet. Applied ice to iliac region. She will go to hospital in the morning and allow operation.

26th April.—About 9 a.m. went to see patient about her transmission to hospital, and just as I arrive am hurriedly called. Find she has passed per urethra a quantity of urine containing considerable pus of a very marked fæcal odour.

She felt much relieved after this, though the bladder was very irritable. Washed bladder out with a solution of boracic acid, thus adding much to the comfort of the patient. Temperature 100°; pulse 95°; pain only on firm pressure; tumour greatly reduced but not gone.

Improvement continued until 28th April, when she was removed to hospital. Temperature then was 99°, pulse 90°. Tenderness diminishing; can now straighten out right leg which she has had to keep drawn up previously.

As she continued to improve (tumour subsiding), and was gaining in strength, I decided to trust to nature and did but regulate diet, placed her upon iron and quinine, and irrigated bladder three times daily with boracic acid solution.

In two weeks patient was sitting up and wanted to move about, but I still kept her at rest. The pus has been coming from bladder lately in very small quantities and appears to be lessening. Temperature all this time 98° to 99° F. Pulse 84 to 94°; no chills. All went well until 28th May, when temperature dropped to 97 and patient shows marked signs of prostration; pulse small and thready. From this date she rapidly sank and died at 1 a.m. on 30th May. I was notified early in the morning, and before friends removed body was able to ascertain condition present.

Opened abdomen and found considerable recent adhesions about appendix. Appendix itself dipping into pelvis about 2½ inches long, thickened and inflamed, and having a perforation about ¾ of an inch from cæcum.

Found a circumscribed abscess cavity separated from general peritoneal cavity by recent inflammatory tissue, and burrowing into sheath of rectus muscle. The abscess communicated with the bladder through its posterior wall by an opening admitting the tips of three fingers. Both fallopian tubes were thickened and contained pus.

Did not get time to examine any further, but from a superficial and hurried examination did not note anything else.

A question of interest here presents itself to me, as to whether or not I did right in temporizing after the abscess had ruptured. In such a similar case I think I should be justified in operating so soon as patient had recovered from the immediate symptoms following the rupture, and had regained some strength.

The third and last case that I shall quote was one of recurring appendicitis, which, on two successive nights showed such elevations of temperature as to somewhat alarm me at the time.

Mr. C., aged 31, has had repeated attacks of appendicitis averaging six to eight yearly. Present attack set in July 24th, with decided chill, marked pain in right inguinal region; vomiting persisting for two days; obstinate constipation; temperature 102° F.; pulse 100. Treatment: Rest; fluid diet; blistering and poulticing to seat of greatest pain in iliac fossa; morphia internally, and enema morning and evening. About 7 p.m. had a severe chill. Temperature 104½°; pulse 120. Could not account for it.

Ordered cold sponging morning and night.

25th July.—Morning temperature normal; pain easier; no induration discernable in right iliac region. At night had another chill, temperature rising to 104°. This time the rise was probably due to his indiscretion, he having been up and about the room attending to some business matters. Had a consultation and decided if the symptoms did not show signs of mending to operate.

26th.—Temperature normal and stays so; symptoms improving and tenderness disappearing. On 29th patient attended to business, though there is yet perceptible tenderness in region of appendix.

Here then is a case where I think operation in the interval of an attack is justifiable, and I have in fact recommended such, and patient shortly intends returning to Montreal and purposes having this operation performed (that is, removal of appendix.)

The general treatment of appendicitis, as viewed at the present day, appears to us to hold a two-fold aspect, namely: as

seen from a medical, and as seen from a surgical, standpoint. Probably this will continue so for some time, though I doubt not but that in the near future the medical treatment of this trouble will be narrowed down to the physician's diagnosis of appendicitis, and that *the* treatment, the removal of the diseased organ, will be relegated to the surgeon.

We know not, when a case appears before us, whether it will prove simple and succumb to abortive treatment, or whether it may not assume serious proportions and threaten the life of our patient. Should we not, then, look for more scientific treatment than the old waiting policy; and what treatment more successful than that which statistics have shown has given, in the hands of our able surgeons, a minimum mortality: that of early removal of the appendix when trouble is diagnosticated there.

Regarding the present status of medicinal treatment, the concensus of opinion is for rest; opium to allay pain; ice applications to seat of trouble, and daily warm water enemata. This is practically the treatment advocated by Dr. Osler in his recent work on the practice of medicine. In addition to this I have found the patient derive marked comfort, and much benefit in the majority of my cases, from cold baths or cold sponging two or three times daily, with water at about 50° to 60° F. If, under this treatment, the symptoms subside in the course of 36 hours, the symptomatic treatment is persevered in, but if, on the contrary, the inflammatory process is progressive, operative interference is demanded.

Dr. Bridges, of Chicago, admirably sums up this line of treatment as follows:—

"Reliance on medical treatment is justifiable in acute inflammations in the cæcal region (*i.e.*, appendicitis, perityphlitis, or typhlitis) of moderate severity, in the absence of strong evidence of perforation, abscess, peritonitis, or marked tender induration lasting two or three days without some sign of decrease, and at high temperature, either continuous or recurring, rapid weak pulse, or rapid anxious respiration. But we can never know when a catastrophe is to occur, even in an ap-

parently mild case. A few cases falling under this category will suffer sudden perforation, general peritonitis and death, but nearly all of them, failing of prompt recovery, will, if perforation occurs, have sharply localized peritonitis or perityphlitis, and probably abscess that will be easily discovered and will demand surgical treatment."

"Surgical interference," Dr. Bridges says: "Is demanded in certain cases of inflammation in the region under consideration (the right iliac), whether they happen to be called typhlitis, appendicitis, perityphlitis, or by some other name, and the weight of first responsibility is on the physician more than the surgeon."

1. "Surgery is imperative in cases of acute inflammation in the cæcal region with rather protracted high temperature, and with distinct induration, sensitive to pressure, that does not show positive evidence of subsidence within two days, or three or four days from the beginning. This rule becomes more urgent if the induration continues to increase in size and sensitiveness after two days, or if symptoms of general peritonitis occur, or rapid weak pulse, or rapid respiration. The vast majority of such cases, if left to themselves, eventuate in abscess in less than a week, and many before that time lead to mortal peritonitis. Some require operation in less than two days from the beginning of the attack, and most of them have perforation of the appendix as early as the beginning of the symptoms.

2. "Operation is required in cases of undoubted severe acute inflammation in the region of the appendix, even though no particular induration is demonstrable, and in cases of acute localized peritonitis having its origin certainly at the appendix and causing marked constitutional symptoms.

3. "Surgery is especially promptly required in that small class of acute cases in which a large, sensitive induration develops rapidly, with high fever and general evidence of severe constitutional disturbance.

4. "Surgical aid is demanded in all cases which have advanced to the subacute or chronic stage with distinct induration

of considerable size, or with any induration that steadily increases in size for many days, since in most such cases pus is present."

At the beginning of an attack it is easy or comparatively so to make a diagnosis, but it is not so easy to say, if the attack will be light or severe *i.e.*, subside or end in complications. If it subsides the patient is still liable to subsequent attacks with danger of a disasterous result. There seems to be but one sound scientific treatment, excision of the diseased organ, once the diagnosis is sure. This further seems the more rational treatment when one considers the uselessness of this organ.

Some advocate immediate operation, others wait until dangerous symptoms have developed; the course at present pursued is a modification, wait twenty-four or thirty-six hours, and be governed by the signs then present, if the patient gets well operate in the interval, if not, then operate when undoubted circumscribed peritonitis appears.

"Pus will form whether there be perforation or none," Matterstock.

"Abscess, wherever it is, and however well it may appear to be surrounded by protective plastic deposits, is a constant menace to life, as evidenced abundantly by its spontaneous opening into the abdominal cavity, the venal canals, the bladder and the chest cavity, as well as externally and into the intestinal canal."—Professor Bridges. In recurrent appendicitis opinion is in favour of operation, either immediate or in interval of attacks. Some timid operators leave surgical treatment of this disease as a last resort, allowing the individual to go on having continued attacks, while others look upon operative interference as the only absolutely safe cure for such. The patient learns to dread the recurrence of these attacks, they interfere with his health, cause great loss of time and much anxiety, especially is this so where, as in case three narrated, the attacks occur many times yearly. The mortality from cases treated strictly medically as mentioned in the early part of these notes, is given by Fitz at forty-four per cent., whereas that from the conservative treatment shows a mortality of only twenty-five per cent.

I remember some time ago reading an article by an experienced surgeon, recommending "operate early (before sepsis begins), so the operation may not be an autopsy."

Keen says: "No cases in surgery saving, perhaps, hæmorrhage from large wounded vessels, require more prompt interference" (surgical).

Surgeons who not long since advocated waiting three or four days before operating, now concede that operation is determined by presence of pus in region of appendix. We shall next see upheld the rule of operating as soon as a positive diagnosis of appendicitis can be made, that is, when there is undoubted circumscribed peritonitis.

The tendency of the treatment of such cases at the present day lies decidedly in a just appreciation of the benefits permanently derived from surgical interference, and so soon as the profession generally and the public at large recognize this, so soon shall we attain a scientific solution of appendical treatment, and our statistics show a lowered mortality from appendicitis.

RADICAL CURE OF HERNIA WITH A REPORT OF SEVENTEEN CASES OF OPERATION.

By J. Wishart, M.D., London, Ontario.

The radical cure of hernia has within the last fifteen or twenty years been a question of great interest and seems to have been steadily gaining ground, for as statistics continue to multiply, it is shown that the operation when carefully performed is not very dangerous to life, and in a large percentage of the cases the cure remains permanent, even after many years. The fact that the disease often relapses is now pretty well realized by surgeons who have had any experience in operating, but this constitutes no valid objection against surgical interference, for this is commonly the case in the majority of operations. Unfortunately for us the pioneers in this branch of operative surgery have so far been unable to formulate rules as to which cases should be operated upon and which let alone, neither have they satisfactorily explained why certain cases succeed, and others fail. The cause is doubtless hard to

explain, for it is extremely difficult to ascertain whether the reason for failure lies with the size or condition of the hernia, the patients general health, his age or his conduct after the operation or the kind of operation employed. No operative procedure yet devised will effectually remove the causes of every species of hernia, so that in certain cases a permanent cure is out of the question: nevertheless the radical cure of hernia may be regarded as among the satisfactory operations in surgery. Although the operation has been successfully performed at almost all periods of life, most authors incline to the opinion, that it should not be attempted in childhood, being somewhat more dangerous in these cases, and the prospect of a cure by means of a truss is in most cases to be expected. Should this fail or should it be found impossible to confine the hernia within the abdomen by means of an instrument then the radical operation is to be advised. Irreducible herniæ in adults not advanced in years, and in fact all those cases which cause serious discomfort to the patient, and at the same time are not externally large should be subjected to operation. In reducible herniæ which cause no discomfort and are easily retained in place by a truss, I am disposed to think, as a general rule, the operation should not be urged upon the patient. In all cases of strangulated hernia, when the condition of the intestines permits of return within the abdominal cavity the radical operation should be attempted.

The radical operation is contraindicated in,

(*a*) All cachectic conditions.

(*b*) Very large strangulated herniæ.

(*c*) The aged, where the patient is not likely to survive a prolonged operation under an anæsthetic.

Here the surgeon should content himself with relieving the strangulation.

While on the subject of strangulation I would beg leave for a moment to urge upon the profession the vital principle of early operation in cases of strangulated herniæ. When done early it is comparatively easy and free from danger, but owing to a variety of circumstances the operation is often delayed until too

late to save the life of the patient. It frequently happens as in the last case of the appended list, that the tumour consists entirely of omentum, and the symptoms are not severe. The pain is inconsiderable, the vomiting not marked and the abdominal distension not pronounced, the intestinal functions, although impaired are not suspended, and the movements of the bowels occur at intervals of greater or lesser frequency with difficulty. Death finally takes place from gangrene of the part with subsequent abscess in the abdomen and general systemic infection. Not unfrequently the case is rendered obscure by the corpulency of the individual, the small size of the tumor, the use of a hypodermic syringe, or a combination of all three with a patient a considerable distance in the country.

In the appended table I have arranged all the cases treated since I began operating with a view to the radical cure of hernia.

There are seventeen tabulated, all of which are adults, with the single exception of a child eighteen months old. The ages range from nineteen to fifty years, with an average of forty-one. There are five females and twelve males, the five females being femoral and the twelve males inguinal, except a man, aged forty-two, with a recent strangulated femoral hernia :

2 cases operated on in - - - - - - 1888
4 " " " - - - - - - - 1889
5 " " " - - - - - - - 1890
4 " " " - - - - - - - 1891
2 " " " - - - - - - - 1892

5 cases sac contained bowel only.
6 " " " omentum only.
5 " " " omentum and bowel.
1 " undescended testicle with the bowel.

In five of the cases there were rather extensive old adhesions of the omentum to the sac. The bowel was not adherent to any extent in any case. In eight cases the operation was done for strangulation, and the radical cure combined with the relief of the stricture. In two cases the strangulation had existed two days, in two for three days, in two cases six to eight hours ;

in one case (omental) of recent femoral hernia in a male for six days.

In one other femoral case the hernia had not been discovered until three days before operation, but had evidently lasted a much longer period judging from the condition of the parts.

Time of recovery was from one to two months, the average being five and a-half weeks. Two of the cases of inguinal hernia have returned. One of these was operated upon in 1889, the other in 1890.

One case of femoral hernia in a female operated upon in 1890, I think has returned, as she writes me that she feels better and more comfortable with a truss. I have not examined this patient since operation.

Two cases were congenital, one that of a child eighteen months old; the other an adult male, aged thirty-eight. The last case operated upon developed malignant disease in the abdomen some weeks after the operation, and has since died. No truss was used in any case after the operation.

2	cases	under	observation	3	years	—no recurrence.
8	"	"	"	2	"	—three recurred.
3	"	"	"	1	"	—no recurrence.
4	"	"	"	less than 1 year		—no recurrence.
1	"	since died of malignant disease.				

In the operations for inguinal hernia the plan usually followed was that of McBurney, which consists in laying open the whole length of the inguinal canal, separating the cord, dissecting out the sac, and after opening and returning the contents, the neck is tied with silk at the highest possible point, and the remaining portion cut off and removed. The wound is packed with iodoform gauze to ensure healing from the bottom and prevent swelling the cord. The skin and the aponeurosis of the external oblique is stitched on the upper side to the conjoined tendon, and on the lower side of the wound to Poupart's ligament, and both sides approximated by sutures to prevent gaping. The operative procedure in the cases of femoral herniæ consisted in dissecting out the sac, tying at the highest possible point, cutting

Name.	Age.	Variety.	Date of Operation.	Contents of Sac.	Condition.	Time of Recovery.	When Last Seen.	Date of Recurrence, etc.
Mrs. C..... 1	40	Femoral.....	March, 1888.....	Bowel.....	Strang 3 days	5 weeks....	March, 1890....	
Mrs. Nagle.... 2	42	"	April, 1888.....	Bowel & omen'.	" 2 "	5 "	April, 1890....	
S. Fox..... 3	38	Inguinal....	April, 1889.....	Omentum	Adhesions 60.	6 " ...	Nov. 25, 1891..	Congenital.
T. Stockwell .. 4	48	"	October, 1889.....	"	"	6 "	Sept. 1892.....	
D. Woodward.. 5	29	"	December, 1889....	"	"	6 " ...	....	December, 1890.
J. Hendrick... 6	26	" ...	" "	Bowel & omen'..	" ...	5 "		
H. McCann.... 7	1½	"	April, 1890.....	Bowel.....	Not adherent	8 " ...	June, 1892.....	Congenital & Tunica Vag. suppurated.
C. Morrison.... 8	55	"	February, 1890....	Bowel.....	Not adherent	6 "	.....	January, 1891.
Rathburn..... 9	28	"	October, 1890.....	Bowel & omen'..	"	6 "		
Mrs. Nimock..10	40	Femoral....	December, 1890....	Bowel.....	Strang. 3 days	6 "	Dec. '91, wears truss probably returned.	
R. Scott.....11	19	Inguinal ...	December, 1890....	Bowel & testicle..	Strang. 8 h'rs	5 "		
Mrs. Maynard..12	50	Femora	November, 1891...	Omentum.....	" 48 "	5 "	Sept., 1892. ...	
C. Hodge 13	52	Inguinal	September, 1890..	Omen' & bowel ..	" 6 "	5 "	August, 1892. ..	
— Barkwell....14	50	"	January, 1891.....	" " .	....	5½ "	July, 1892.. ..	
— Craigan.....15	42	" ...	" "	Bowel.....	....	2 months..	May, 1892.....	Suppurated.
T. McMann....16	42	Femoral	June, 1892.....	Omentum.....	Strang. 5 days	2 weeks....	Sept. 1892.....	
Mrs. Owens.....17	65	" ...	July, 1893.....	"	" unkno'n	2 "	Died since of malignant disease in abdomen.....	

off that portion of the sac below the ligature, and stitching up the wound with silk.

REPORT ON A HUNDRED CASES OF ETHER ANÆSTHESIA BY CLOVER'S INHALER.*

By G. Gordon Campbell, B.Sc., M. D.

As the title of my paper suggests, my object is to bring before the Society a report of the results obtainable by the use of Clover's inhaler in ether anæsthesia, rather than a discussion of the subject of anæsthesia in general. There are, no doubt, many members who are not acquainted with this form of inhaler, so I will exhibit the instrument. The following description is copied from Mill's article on Anæsthesia in *Treves' Manual of Surgery*:

"The inhaler consists of a face-piece with an indicator which, by rotation, may be made to point to 0, 1, 2, 3, and F on the circumference of a metallic vessel containing fluid ether; and of a bag into and from which the patient breathes. It is so constructed that when the indicator is at 0 the expired and inspired air passes to and from the bag, without in any way communicating with the ether chamber. If the indicator stands at F, the whole of the expired air must pass through the ether vessel to the bag, and at inspiration return from the bag through the ether vessel. When the indicator is at 2, half the respired air passes to and from the bag direct, the other half passes through the ether vessel, and so on for the other numbers. The air does not pass through the ether but simply through the vessel containing it, and this is sufficient to carry off a large amount of its vapour."

On commencing the administration I pour an ounce and a half of ether into the vessel and rotate the cylinder so that the indicator is at 0. The pillows are then arranged so that the patient's head lies as nearly as possible in a line with the body, that is, as it would be held in standing. The eyes being closed the inhaler is then placed on the face and tilted away from the chin so that the mouth is left free. I then direct the patient to take several deep breaths and lower the face piece in time to catch each expiration, raising it again at inspiration, and thus

* Read before the Medico-Chirurgical Society of Montreal, Dec. 9, 1892.

fill the bag with the expired air. The usual result of taking several deep breaths now follows, the succeeding ones are much shallower than normal, and I now turn the cylinder so that the indicator stands at about a quarter way between 0 and 1, which means that the patient is getting about five per cent. of ether vapour in the air breathed.

I think it a good plan not to require the patient to take deep breaths at first, as ether always causes more or less irritation to the respiratory tract, and by beginning with a very small amount the percentage of vapour may often be rapidly increased without producing much distress. If the vapour causes no discomfort the reservoir is now slowly rotated, moving only a short distance at a time and giving a breath of pure air when necessary. At the first sign of intolerance, such as swallowing or raising the hand to remove the inhaler, I give a breath of pure air, and if this fails to quiet the breathing I turn the reservoir back some distance. Very soon a stage is reached at which the patient seems to fall asleep and regular, deep breathing ensues, enabling the ether to be turned on more rapidly, and complete anæsthesia, shown by loss of the corneal reflex and snoring breathing, follows without any further trouble. At the moment full anæsthesia is produced the muscles all over the body relax, the chin falls, and the advantage of having the neck straight is now seen, as where the head is raised too high on the pillows the chin, as it falls, allows the glottis to become closed and the passage of air into the lungs to become more or less completely blocked. If, however, the neck is not bent, placing one finger behind the angle of the jaw and raising it up at once allows of the free passage of air through the larynx. In a few cases of obstruction to the breathing this procedure is unsuccessful and attention should then be turned to the nostrils, which, in many people, under the complete relaxation of deep anæsthesia, collapse at the beginning of each inspiration. Inserting a small piece of stiff rubber tubing of the proper size into each nostril, until the muscles have regained their tone, will remedy this condition. It occasionally happens that instead of relaxation a state of tonic contraction or spasm, affecting the

whole body, follows full anæsthesia. The cause of this rigidity I cannot explain, but by experience I have found that withdrawing the ether altogether, until it passes off, is the best plan of treating it, as on recommencing the administration it is not likely to recur. Pushing the ether seems to prolong the spasm. The condition has occurred eight times in the hundred cases, but in only three of these was it at all marked. Very much less ether is required to keep up than to induce anæsthesia, hence I now turn the indicator back to midway between 1 and 2, and in fifteen minutes or so it can again be moved back, giving less and less ether as time goes on. At the beginning, too, the patient may get one inspiration of air to every three from the bag, gradually increasing the proportion of pure air.

I will now take up in order the various points of which I have kept a record, first,

The length of Time required to produce complete anæsthesia. —The average time for the whole hundred cases is 5.21 minutes, the longest being 11 and the shortest $2\frac{1}{2}$ minutes. This, however, does not fairly represent the time usually necessary, as over 50 per cent. were under five minutes. It must also be noted in considering this average, that the time was calculated from the moment the inhaler was applied to the patient's face until she was ready for operation, as I consider that, from the point of view of both patient and surgeon, the actual time taken up after the inhaler is applied until the patient is ready for operation, is of more practical importance than the number of minutes it takes to induce anæsthesia, when once the breathing of ether vapour has begun. A great many persons will not breathe properly at first, and some time is spent in allowing them to become accustomed to the apparatus before the ether can be turned on to any extent; and I have included this time, although it will be seen that all cases of over six minutes duration were due to this cause and there are twenty of such. Furthermore, it must be remembered that the main point kept in view during the administration is to give the ether with as little discomfort to the patient as possible, and although this lengthens the time somewhat I have not had a single case in

which there was struggling or the patient required any restraint. My rule is, on the patient showing any resistance or crying out, to endeavour to reassure her and at the same time diminish the strength of the vapour. If this fails and struggling and screaming commences, I at once remove the inhaler from the face and, speaking sharply, order her to take the ether quietly, saying I will wait until she does so; and in all but one case this has had the desired effect, perhaps by the substitution of one emotion for another, the fear, or whatever caused the excitement, being replaced by a feeling of resentment at my want of sympathy. The failure referred to is worth alluding to. The patient, after a few breaths, began to scream, and on my removing the inhaler was so excited she could not be induced to commence again for a full hour. The idea had become firmly fixed in her mind that she had entered on what she called the "terrors of death," and that I had recognised her danger in time to remove the inhaler and save her life. Finally, however, she went under in four minutes without a cry, although she was trembling with excitement. Where a second operation has to be performed, the advantage of using no force in the first administration, and of having the patient look back on it with as little dread as possible, is very great.

Percentage of Ether Necessary to Produce Anæsthesia.—In fifty of the cases reported I have kept a record of the proportion of ether vapour, as registered by the indicator, in the respired air, at the moment of full anæsthesia, on the supposition that the air passing through the ether vessel becomes completely saturated with vapour. Estimating the proportion from this basis, I find that the average is 60 per cent.; that is, that the patient becomes fully anæsthetised before the air breathed contains two-thirds of its bulk of ether vapour. The old idea, then, that ether vapour needs to be given as nearly pure as possible must be abandoned.

Amount of Ether Consumed.—The next point I have worked out is the amount of ether consumed during an administration, and this I have obtained by noting the amount of ether used and the length of the administration in 73

cases, of which the shortest was 20 minutes and the longest was 3½ hours. The average length of administration is 91 minutes, or 1½ hours; and the average amount of ether used, four ounces and six drachms by measure (f℥iv f℥vi), that is considerably less than a quarter pound tin. The ether in a 100 gramme tin, which measures just five fluid ounces, will suffice for an administration lasting an hour and thirty minutes. About four fluid ounces are required the first hour, and two the next, and so on. There is too, roughly speaking, a relation between the body weight and the amount of ether used, but this is often disturbed by other causes which I am unable to define, but perhaps individual idiosyncrasy is a prominent one.

Vomiting during the Operation.—Vomiting on the operation table occurred four times in the 100 cases: once owing to the ether being withdrawn too soon, and once in an extremely nervous subject. The other two instances were in the same patient on two separate occasions, and were attributed to a large dose of whiskey and water taken just before beginning the ether.

After Vomiting.—I have kept a record of the vomiting occurring while the patient was recovering from the anæsthetic in the last forty cases. Fifteen of these, or over one-third, 37½ p.c. were not sick at all, seven were very sick and the others vomited from one to four times. Absence of vomiting does not necessarily mean absence of nausea, but as in most cases nausea is accompained by vomiting, we can get some idea of the relative frequency of after sickness from these figures. The amount of vomiting occurring after the patient comes out of the anæsthetic is also of practical importance in many laparotomies where tension on the abdominal walls from within is desired to be avoided as far as possible.

During the induction of anæsthesia the pulse as a rule becomes very rapid, running up to 120 or 140; at the end of ten minutes, however, it will be found to have quieted down considerably, and it finally falls to between 80–100, and is generally much fuller and stronger at the end of the administration than just before the commencement. On discontinuing the ether, however, the rate rapidly increases again.

The respirations are full and strong and average 25 to 35 to the minute. Quicker respirations mean that more ether is being given than necessary, and slower, that the anæsthesia is on the point of passing off. The rate, therefore, of the breathing, can be used as an indication of the degree of anæsthesia present.

The pupils at the outset dilate, but soon contract, and remain moderately contracted throughout. The presence of the light reflex is seen where the anæsthesia is not very profound; and contraction may thus be produced in one eye from repeated exposure when the other pupil is moderately large.

Sighing is often very marked, it occurs every 45–65 respirations, and seems to have very little significance.

As stated before, I find that patients breathe much more easily when the head is not raised on a pillow in such a manner as to bend the neck. In persons with short thick necks no pillow at all is to be preferred. Closure of the glottis is at once relieved by making extreme extension of the neck, while at the same time the angles of the jaw are drawn forward away from the neck. I have never had to use tongue forceps.

Stiff mucus collecting in the throat and interfering with respiration is easily removed by a small sponge on an old fashioned sponge holder.

In giving the anæsthetic I consider it is absolutely necessary, in order to get good results, to have a quiet room to begin in. Success, both as regards time and comfort, depends upon not exceeding the tolerance of the patient, and the noise made by the air going to and from the bag is what the anæsthetist depends upon to guide him. Any noise which would prevent one from hearing when there is some obstruction to the breathing, will prevent the proper precautions being taken in time to avoid struggling, etc. Moreover, it is found that patients who pass into unconsciousness without excitement and without a struggle, bear the anæsthetic much better during the operation than when there is a stage of excitement. The behaviour of each individual case to the anæsthetic is noted while the patient is going under, and the after conduct of the case is governed by

the knowledge thus gained. When it is at all possible then, the administration should be begun by the one who is to carry it on.

It is claimed that the effect produced by this form of inhaler is, to a great extent, due to asphyxia induced by reduction in the amount of oxygen and re-breathing of expired air; and, moreover, that the breathing of the respired air has a deleterious effect, owing to the poisonous matters eliminated in it. In order to determine as far as possible what portion of the anæsthetic effect was due to asphyxia, I gave the ether in ten cases in the following manner: one respiration of air; inspiration of air; expiration into the bag; one respiration from and to the bag; that is, in every three breaths two are pure air, and then the air in the bag is replenished each time by an expiration containing the amount of pure air in the nose and respiratory passages at the end of inspiration. The foul air in the bag is thus diluted with a certain amount of good air before it is drawn into the lungs. As two breaths of pure air are taken to every one from the bag, the effect produced by asphyxia under such circumstances must be almost nil, when we remember that the patient is breathing at double the normal rate. Now, comparing these ten cases with ten others having respectively corresponding durations, I found that in the cases where the possible effect due to asphyxia was eliminated, the amount of ether used only increased half a drachm in five ounces. Consequently asphyxia cannot be a factor of any practical importance in the anæsthesia induced and kept up in the manner described, although by allowing the patient to breathe very much less pure air in proportion to that from the bag, than is my practice, it may become of importance.

In conclusion let me sum up briefly the advantages claimed for this form of ether inhaler.

Rapidity in the production of anæsthesia combined with but little discomfort to the patient.

The small amount of ether used and the slight escape of ether vapour into the room.

The extremely slight liability to vomiting while under the influence.

The advantage to the anæsthetist of having the exact state of the breathing constantly evident to him through his sense of hearing, and the prime importance of this now that the respiration is admittted on all sides to be the most trustworthy evidence of the patient's condition, and the first function to show the approach of danger.

It is necessary to state for a proper estimate of the value of the foregoing statistics that the patients were, with three or four exceptions, all adult females, and the most of them in a private hospital where all precautions are taken to ensure success. The operation is done between nine and ten in the morning, and no food, except beef tea allowed for twelve hours before. The absence in this report of such after effects as bronchitis, suppression of urine, etc., which are usually attributed to ether, is because none were observed, although the patient was always under observation for at least ten days.

I have appended to the report a table of the individual cases from which my statistics are compiled.

Number of Cases.	Time going under, in minutes.	Percentage of ether reached at moment of complete anæsth'a.	Total length of time anæsthetised (minutes.)	Amount of ether used (fluid drachms.)	Number of times after-vomiting occurred.	Remarks
1	4	56	80	32	.....	Profound anæmia, sighing 48-65, quiet.
2	9	100	200	64	.....	Talked and cried out just before going under, but no force necessary: ether very cold.
3	4	70	140	40	.....	Stopped giving ether too soon; patient vomited on table
4	6	75	140	44	.....	Large woman.
5	4½	100	.....	.....	.....	Ether very cold.
6	7	75	85	20	.....	Rigidity of whole body 1 minute after abolition of corneal reflex.
7	6	62	....	....		
8	4½	45	25	20	.....	
9	4½	63	70	28	.....	Aged 76.
10	7	62	80	24	....	Very weak; required very little ether.
11	10	75	110	40	.....	Rigidity and moving hand after abolition of corneal reflex.
12	10	70	90	36	.....	Kept a finger under mouth-piece going under.
13	6	50	.....	.....	.....	
14	4	62	.....	.....	.....	Sighing very marked.
15	7	84	135	.....	.....	Large woman: 5 p. c. ether last 40 minutes.
16	4	50	....	.....	.....	
17	4½	50	....	.....	.....	
18	5	50			.....	Hiccough at times, stopped by pushing ether.
19	8	.....	.....	.....	.....	

No. of Cases.	Time going under, in minutes.	Percentage of ether reached at moment of complete anæsthetised.	Total length of time anæsthetised (minutes.)	Amount of ether used (fluid drachms.)	Number of times after-vomiting occurred.	Remarks.
20	11	70	....	....	.....	Increased strength of vapour too rapidly causing spasm.
21	10	....	..	....	.....	Removing stitches.
22	4	....	....	...	.....	
23	5	50	...	...	.....	
24	3	70	145	48	....	Less than 5 p. c. most of time.
25	8	75	55	32	.....	
26	11	....	200	68	.....	Vomited going under, just before anæsthesia complete; 6 p. c. ether after anæsthesia produced.
27	3	50	....	....	.....	
28	7	....	.	....	.....	
29	5	....	...	....	.....	
30	6½	....	...	....	.....	Vomited on the table.
31	8	....	..	....	.....	
32	5	45	....	....	.....	
33	4	63			.....	
34	5	56	140	44	....	
35	4	45	140	24	.....	Very slight; emaciated; breathing stopped by mucus in throat; relieved by turning on side; no ether required at all last hour, except an occasional breath.
36	5	45	50	24	.....	
37	7	50	....	....	.....	
38	3½	62	75	44	.....	Large woman: used more ether than usual.
39	5	50	120	48	.....	
40	4½	45	90	40	.....	Ether given on side; elbow used. Kidney case.
41	11	63	....	....	.....	Mouth-piece not fit the face.
42	4	56	45	24	.....	Reflex from perinæum after corneal absent.
43	5	62	85	50	.....	Vomited six times at intervals while completely anæsthetised; given brandy and water just before administration.
44	6	62	....	....	.....	
45	7½	75	145	48	.....	Inhaler not fit the face—No. 41.
46	8	....	30	32	....	
47	5	50	60	26	.....	
48	3	....	45	24	.....	
49	4½	50	180	64	.....	
50	4	....	....	....	.....	
51	3	....	45	24	.....	Gave 25 p. c. ether all the time.
52	5	....	75	28	.....	
53	4	....	55	28	.....	Very anæmic.
54	3½	75	40	26	.....	Same as 43: vomited once during administration; spirits and water just before.
55	5	....	20	8	.....	Examination abdomen; umbilical hernia.
56	4½	....	60	32	.....	Same case as 55; operation.
57	5	70	60	36	.....	
58	5	....	.	.	.....	Male. Dental case.
59	4½	50	60	32	....	
60	4	....	....	....	.....	Same case as 59.
61	5	....	120	44	3	
62	6	....	150	48	3	
63	10	....	120	44	1	Mouth-piece not fit; remedied by turning end for end; pulse very slow, 52.
64	3	50	110	44	0	Gave 2 breaths air to 1 ether all through.
65	5	62	90	36	0	2 air to 1 ether; kept indicator at 1½ = 38 p. c.
66	4½	....	15	32	1	Thick mucus in throat; relieved by pulling out the pillow.
67	5	....	115	40	2	2 air to 1 ether.
68	5	..	45	20	0	
69	2½	....	150	56	0	
70	4½	....	110	44	0	

Number of Cases.	Time going under, in minutes.	Percentage of ether reached at moment of complete anæsth'a.	Total length of time anæsthetised (minutes.)	Amount of ether used (fluid drachms.)	Number of times after vomiting occurred.	Remarks.
71	10	...	70	26	0	Going under commenced to scream; removed inhaler and waited until she agreed to breathe quietly.
72	4½	....	120	40	6	2 air to 1 ether; kept at 25 p. c.
73	6	....	85	41	1	Very large woman.
74	5	....	60	30	Many	2 air to 1 ether.
75	4	...	90	36	3	2 air to 1 ether.
76	3	....	90	52	0	Large woman; 2 air to 1 ether; large amount used.
77	4	....	120	48	3	2 air to 1 ether.
78	3½	..	45	24	Many	Very nervous woman; spasm of glottis at beginning.
79	7	....	90	40	5	1 ether to 2 air.
80	5	....	135	48	2	2 air to 1 ether.
81	4	....	120	48	3	
82	4	...	30	16	Many	Vomited on the table. Very nervous.
83	5½	....	50	24	3	Same as 81.
84	3½	..	30	16	3	
85	4	....	45	20	4	
86	3½	....	95	34	0	Some spasm and rigidity.
87	3	....	90	48	Many	Same case as 82: mucus in throat.
88	5	50	100	42	0	2 air to 1 ether.
89	3	....	85	48	2	Considerable mucus during operation.
90	4	....	105	52	Many	During administration, spasm lasting so long the patient almost regained consciousness.
91	4	....	95	56	6	
92	4	....	135	88	2	
93	4	50	135	44	0	Case described; screaming and refusal to go on for an hour.
94	5	....	20	8	0	Opening abscess.
95	4	....	120	44	1	No mucus.
96	3½	45	120	44	1	Some sighing: pulse 82 from 120.
97	3	50	50	24	Many	Urine, 8 oz. 1010.; urea 1½ grains to oz. = 12 grains.
98	3½	45	90	36	0	Urine ½ oz.; loaded urates: urea 11 grs. to oz. = 5½ grs.
99	3½	60	80	34	0	Abdominal case: urine ½ oz.; urea 5 grains.
100	5	....	110	44	0	Excision of the breast.
	5·21	60	91	38	37½	Per cent. without after vomiting.

Retrospect Department.

QUARTERLY RETROSPECT OF GYNÆCOLOGY.

PREPARED BY T. JOHNSON-ALLOWAY, M.D., MONTREAL.

Ectopic Gestation.—DR. JOHN W. TAYLOR read a paper on this subject before the British Gynæcological Society recently. He says: (*British Gynæcological Journal*, August, August, 1892, page 168.) That ectopic pregnancy is almost always tubal in its origin and that it is liable to cause dangerous or fatal hæmorrhage from rupture of the tube are points too well established now to need confirmation or comment, but it seems to me that it has been too readily assumed that the sequence of tubal distension, rupture at a definite period, and dangerous or fatal hæmorrhage consequent on this, is an almost invariable one. My own experience and observation of cases of extra-uterine gestation have been sufficiently extensive to teach me that there are few diseases the course of which can be more variable. With the exception of cases of early operation in which a ruptured tube has been removed before any trace of a fœtus can be found, it is quite rare to meet with specimens in which the method of growth or extension has been strictly similar or directly comparable; and while full justice has been done to some ways of development such as that beneath or within the broad ligament, so well described by Drs. Hart and Carter, I am convinced that there are notable variations from this standard in advanced ectopic pregnancies, that need further study and elucidation.

The following cases treated by operation were then related:

Case I.—Mrs. E. F., aged 44; four children, youngest five years of age. Menstruation regular until eight weeks before seen, since then has been continuous and profuse. Examination discovered a large, soft, irregular tender tumor in Douglas' pouch behind the uterus. Diagnosed, as tubal operation discovered, a large blood clot in Douglas' pouch, some recent adhesions. The right fallopian tube was found to be distended in

its centre, and on being split open after removal revealed a small "mole" of pregnancy attached to one part of the inner surface of the tube.

In this case there was hæmorrhage in the abdomen and also into the vagina, and there was no endeavor on the part of the tube to extrude the contents into either the abdomen or uterus, so-called "tubal abortion."

Case II.—This case was one of tubal pregnancy, causing early rupture with sudden and profuse hæmorrhage. Aged 32, one child six years of age. She missed one month, then one week following she was seized with severe abdominal pain, nausea, and increased rate of pulse. Next morning vomited several times and pulse rose to 140. Condition now was that of great palor, faintness, quick feeble pulse and great abdominal distension, but fully conscious.

Examination.—A soft doughy mass felt in Douglas' pouch behind the uterus. Diagnosis—Hæmorrhage from ruptured tubal pregnancy.

Operation—Great quantity of fluid blood gushed out through opening; whole of cavity distended with blood. Suspecting left tubal pregnancy, left broad ligament was rapidly clamped off, isolating the appendages, and found left tubal gestation sac. this with its ovary was removed. Right appendages found healthy and returned to pelvis.

Case III.—The third case of Dr. Taylor's was a tubal pregnancy, which dilated the fallopian tube to a large size *without rupture*, then became quiescent and stationary for a time, and was finally removed by operation after five weeks' careful observation.

Case IV.—The fourth case of Dr. Taylor's was also a tubal pregnancy of about four months' duration, but in this case there has been a proper development of the child, so that the fœtus answers to the recognized normal standard at four months. How has this been accomplished? The pregnancy is in the outer part of the left fallopian tube, at the fimbriated end. This was the condition found at operation The uterus was pushed by the pregnancy to the left side of the pelvis. The space on the right

side was therefore filled by the mass, and the latter had encroached upon the abdomen.

Case V.—This was a case of pregnancy at full term, in which the child was found free in the abdominal cavity beneath the omentum, and the removal of the child, and the subsequent removal of the placenta was followed by the recovery of the mother and life of the child.

Case VI.—Dr. Taylor relates another case, one in which an extra-uterine pregnancy progressed beyond full term in a thick intra-peritoneal sac. There were grave constitutional disturbances of a septic nature, characterised by pyrexial rigors, vomiting, and marked prostration, and when seen everything seemed to point to a fatal issue.

Operation.—On opening the abdomen the purple wall of the tumor became visible. This tumor contained several pints of dirty brown fluid.

Dr. Taylor also relates the history of a case where the patient experienced all the symptoms of rupture and hæmorrhage, but apparently recovered without operation sufficiently to be in fairly good health for two years. A second rupture then took place, necessitating operation and removal of the mass, from which operation the patient nearly died. The parts removed showed evidence of the first rupture. This case proves the fallacy of treating cases of ectopic pregnancy on an expectant plan.

Surgery of Diseased Uterine Appendages.—Dr. RUTHERFORD MORRISON (*British Gyn. Jour.*) in considering the propriety of operating in many of these diseases, says the elaborate differential diagnosis is frequently difficult and in some impossible. The symptoms representing inflammatory conditions requiring operation are:

A history of recurrent attacks of peritonitis. These are due in the majority of cases to gross disease of the tubes, pyo-, hemato-, or hydro-salpinx, and, as a rule, require operation. If alone or treated palliatively, protracted and painful convalescence may occur, interrupted by relapses, which may at any time suddenly prove fatal.

Hæmorrhage from the uterus, with few exceptions, occurs more or less in all cases of inflammatory disease of the appendages, as well as that of the uterus, and may be so mild as not to attract attention to the pelvic organs, or so severe and accompanied by pain as to seriously injure the patient's health.

Pain—the most urgent from the patient's point of view, and the most misleading from the surgeon's. The most prolonged and painful complaints are not always attended by physical evidence of organic disease. This fact is, I believe, not sufficiently recognized, and unless the pain is accompanied by physical signs of gross and active pelvic disease, these patients should not be operated on, because these are the patients who are not benefited, but, as a rule, are made worse by the operation.

The physical signs indicating that a case requires operation are:

The ordinary signs of pelvic peritonitis, with exudation, possibly in sufficient quantities to exclude all other land marks. The history is usually one of preceding gonorrhœa, abortion, or confinement; the symptoms, those described, and the cause, diseased tubes.

Dilated and distended tubes usually to be felt behind the the uterus, and recognized by the rounded shape and elastic feel. The history varies with the history of the case and the contents of the tubes. Gonorrhœa is the most frequent cause, and the contents of the tube usually purulent. Extra-uterine pregnancy may be the cause, and blood is then found in the tubes.

Ovarian tumors; ovarian enlargements which may be due to abscess or chronic ovaritis.

A displaced ovary, when causing painful defecation, dyspareunia, irregular hæmorrhages, and pain on palpation, should be removed if ordinary methods fail to remove the symptoms.

Some cases of acquired dysmenorrhœa, frequently due to chronic salpingitis, can only be cured by removal of the appendages, even when it is impossible to feel the ovaries on account of old adhesions surrounding them. These adhesions are an important aid in diagnosis.

Some cases of irregular hemorrhage, illness and pain resulting from the same causes as the preceding.

Every case of acute general peritonitis is due to some gross lesion, mostly requiring operative treatment; and in women the possibility of rupture of diseased appendages must not be forgotten.

In a few words the conclusion is that cases of ovarian and tubal disease requiring the operation of removal are those in which there are definite signs of disease in the pelvis, causing serious symptoms.

Removal of diseased appendages is the only course if the diagnosis is correct. Nothing, in my experience, can be more satisfactory than the results of the removal of diseased appendages. The patient's immediate recovery is rapid, the mortality for a major operation small, and everyone interested is satisfied with her ultimate condition.

Dr. Morrison says: "I am convinced that a woman is in no way altered by removal of her uterine appendages in these cases except for the better. Her womanly instincts and feelings are not abolished by the operation. If suitable cases are submitted to operation, I believe that prolonged and tiresome convalescence and doubtful results will soon cease to be heard of."

Pelvic Peritonitis, the Surgical Intervention in Certain Cases of.—Dr. C. J. CULLINGWORTH read a paper at the Obstetrical Society of London, October 5, 1892 (*Medical Press*), based on fifty observations of his own, in favor of surgical intervention in certain cases of pelvic peritonitis. The cases include the whole of the author's experience up to February, 1891. Pelvic suppuration was present in 30 cases, or 60 per cent. It occurred in the fallopian tube alone in 13 cases; in the ovary alone in 6 cases; in both tube and ovary in 7 cases (in 6 of which both tube and ovary were in direct communication), and in the remaining 4 cases the seat of the suppuration was not either precisely determined or did not involve either the tube or the ovary. There was a strong presumptive evidence of gonorrhea in a large proportion of the cases, and in four the proof seemed complete. Nine of the cases died, a mortality of

18 per cent. Seven of the deaths were due to peritonitis—probably septic—one to nephritis, and one to collapse on the eleventh day.

Of the fatal cases 1 was tubercular disease of the tubes, 2 were purulent salpingitis, 1 was double salpingitis with old hemorrhage, 2 were suppurating tubo-ovarian cysts, 1 was retro-peritoneal suppurating cyst, 2 were old peritonitis with serous cysts of the broad ligament. The mortality sensibly diminished as he gained experience. Hemorrhage to a greater or less extent existed in 12 of the 32 cases of salpingitis. In 5 cases there was amenorrhœa, in 3 dysmenorrhea, while in 12 the menstrual functions were undisturbed. In 16 cases the removal of the appendages was complete, in 23 partial. Of the former, 15 recovered; of the latter, 17. The peritoneum was flushed in 22 cases, of which 18 recovered. Drainage was employed is 47 out of 55 cases.

In 2 cases a fecal fistula formed, which in each instance healed spontaneously. In 5 cases the patients complained for some time afterward of a more or less persistent pain. A sinus existed in 6 of the cases when the patients left the hospital; in 2 of these the sinus had healed when the patients were last seen. In 4 cases hernia had occurred in the line of incision. He particularly called attention to the unreliability of the temperature as a sign of pelvic suppuration, the temperature before operation having been absolutely normal in twelve of the thirty cases in which suppuration was present. He suggested the following conclusions as the outcome of his experience:

1. Recurrent attacks of pelvic peritonitis in the female ought always to lead to a strong suspicion of the existence of chronic disease of the uterine appendages, and to a careful bimanual examination.

2. Purulent collections in the pelvis are particularly apt to set up recurrent peritonitis, and are more common than is usually supposed.

3. Where distinct swellings are found in the posterior quarters of the pelvis, in connection with recurrent attacks of pelvic peritonitis, surgical relief is usually indicated, and, generally speaking, the sooner such relief is afforded the better.

Metrorrhagia and Uterine New Growths.—KIREIEFF (*Rev. de Tocol. et de Gynéc. de St. Petersburg*, May, 1892) writes on adeno-papilloma of the uterine cavity. He distinguishes two forms. The first bears all the clinical characters of cancer of the body of the uterus; it is pathologically cylindrical carcinoma or adenoid cancer. The second is seen in the disease sometimes termed (or confounded with) "fungous endometritis." Thus Kiréieff observed an extreme case in which the patient, a sterile woman, aged thirty-seven, suffered from metrorrhagia for four years. The uterus rose above the pubes, and was as big as the head of a child of ten. The cervix was shortened. In the uterine cavity a great number of papillomatous vegetations were fouud growing from the uterine wall, and from the lining of the canal of the cervix. The curette did no good, as the vegetations, which bled freely, were too intimately associated with the deeper uterine tissues. The body of the uterus was removed by abdominal section, the cervix through the vagina. Pathologically, the vegetations were myo-adeno-papillomata. This disease, "although very serious, on account of the constitutional debility which it produces, does not directly endanger the patient's life," but Kiréieff insists, nevertheless, that, as in the malignant form, the right treatment is extirpation of the uterus.

Menthol in Pruritus Vulvæ.—Dr. SAALFIELD, of Berlin (*Verhandlungen d. Dermatol. Vereinig zu Berlin*, 1891), has found menthol in a three to six per cent. alcoholic solution, to be more efficacious in this affection than either carbolic or salicylic acid solutions. He also obtained good results from a menthol-lanolin salve.

Curettement of the Uterine Cavity.—GOSSMAN (*Muenchener Med. Woch.*, 1892) thinks there is not much danger in connection with the operation. But we think it not advisable to curette the uterus in the office. It is somewhat like the rash fools who persist in hunting tigers in India on foot—it is only a matter of time with them.

The Treatment of Advanced Extra-Uterine Gestation.—Prof. R. FROMMEL regards this subject from the standpoint of whether it is advantageous or not to wait the death of the fœtus.

When the fœtus is dead the liability to hemorrhage is certainly less, but for all this he does not think it wise to postpone operation. He says:

1. Operative interference is indicated in advanced extra-uterine gestation under every condition.

2. The fœtal sac should always be totally extirpated when possible, and only in cases of necessity should it be sewn to the wound.

3. It is not advisable to postpone operation until the death of the fœtus, but every extra-uterine gestation should be removed as quickly as possible.

Ventro Fixations of the Uterus.—SPAETH (*Meunch Med. Woch.*, 1892) reports ten further cases from Prochownick's Clinic in Hamburg. In all this makes 25 cases. There was not a single death. Twenty-one cases were under observation from seven months to seven years. In 17 cases the uterus remained forwards and the patients were free from symptoms previously complained of.

Schede's method in Hamburg consists in bringing together the fascia of the rectus muscle by means of buried silver wire sutures. The results have been excellent.

We do not think that it is necessary to use silver wire in this operation; silk-worm gut of salmon size is the proper material in such cases.]

Palpation of the Ureters in Woman.—FUTH (*Der Frauenarzt*, Aug. 1892) speaks of the value of palpating the ureters in women suffering from urinary troubles. A case is related in which the right ureter was found thickened, and the corresponding kidney diseased in consequence of an ascending gonorrheal infection.

Intra Uterine Injections of Tincture of Iron.—EICHHALZ (*Der Frauenarzt*, March 6th, 1892), makes some remarks upon the fatal case of Dr. Pletzer, following intra uterine injections of tincture of iron. He condemns the method in general, but more especially when so dangerous a drug as tincture of iron is used. Chrobak alone has collected eighteen cases of death resulting from the injection of this agent.

Technique of Tamponing the Abdominal Cavity.—D. V. OTT (*Curtlb. fur Gyn.* 1892, No. 32), states that it is much better to make an opening through Douglas' pouch with a blunt forceps, and carry the end of the gauge tampon into the vagina, instead of out through the abdominal wound. He says there is less danger of iodoform poisoning as less gauge is used. The drainage is also better on account of gravitation. And the abdominal wound will heal without any interference from the gauge.

Tripple Lapartomy.—Dr. ODEBRECHT (*Curtlb. fur Gyn.* 1892, No. 34), reports a case of a patient on whom lapartomy was performed three times. In the first instance the left ovary and tube was removed and ventro fixation carried out. Shortly afterwards she returned complaining of pain. The right tube and ovary was then removed. The uterus was found firmly fixed by a short band of tissue to the anterior abdominal wall, it was quite strong. In a few weeks the patient again returned suffering with pain. The abdomen was again opened and the omentum was found adherent to the entire wound in the abdominal wall. This was separated and the patient recovered.

Bilateral Tubal Pregnancy.—In this patient a right-sided ectopic gestation was diagnosed in June, 1890, but she refused operation. At the end of October, 1891, there were signs and symptoms of a similar condition on the left side. Abdominal section was performed. A gestation cyst, of the size of a goose egg, was removed from the left side; and on the right side, surrounded by matter, intestines, etc., was a cavity in which the right oviduct ended, and in which small fetal bones were found. The patient recovered well.—*Zeitschrift für Gebürtshilfe und Gynäkologie, Bund* xxiii, 1890.

Supperative Peritonitis.—W. KORTE gives the results of nineteen consecutive cases of suppurative peritonitis which he has treated during the past two years. He divides his cases into three classes: (1) General septic peritonitis with little exudation and with paralysis of the intestinal walls. These cases are not capable of improvement by direct surgical interference. (2) Suppurative peritonitis without adhesions. (3) Suppurative peritonitis with

adhesions. Cases of tuberculous peritonitis, or of peritonitis following internal strangulation or gangrenous herniæ, are not reckoned in the series of cases. In the second and third classes of cases, especially in the latter, much may be done by surgery. Removal of the purulent fluid is advised as the best method of treatment, but washing out of the peritoneal cavity with antiseptic solutions is said to be futile, and is not recommended. By these means abdominal pressure and tension are reduced, and hence interference with the lungs and heart prevented. If the peritonitis is due to perforation of the bowel, and this can be easily seen, closure of the aperture by sutures is advised; but a prolonged search for the aperture in the gut is deprecated. After incision and evacuation of the pus, drainage tubes are inserted. Of the nineteen patients operated upon, six recovered. The ages varied between two and seventy-one years. Twelve of the cases were general peritonitis with fibrinous exudation which formed adhesions. Out of these twelve, six recovered; hence the value of adhesions in these cases is seen to be very considerable. Of the patients who recovered, four were between eighteen and thirty-one, while the fifth was forty-nine, and the sixth fifty-six. As regards the time of the operation, sixteen were operated upon before the end of the fourth day from the commencement of the symptoms; the remaining three were operated upon at a later period. Of those operated upon before the fourth day, six recovered, while all those operated upon after this died. In two cases the peritonitis came on after reduction of hernia, in two after perforation in typhoid, in two after rupture of the bowel, in one after perforation from an ulcer of the stomach and in three after injury to the abdomen. The operation was always carried out by the median incision in the linea alba, and when the purulent collection was reached it was mopped out with tampons of wool. Recovery was delayed in many cases, and further incisions were required. In some cases intestinal fistulæ formed, which either healed spontaneously or were submitted to further operation. For these cases the continuous water bath is advised. Korte kept some in this for five days

with considerable advantage.—*Berl. klin. Woch.*, No. 31, 1892; *Br. Med. J.*

Extra-Uterine Pregnancy.—At the meeting of the Gynecological Congress, at Brussels, September 16, 1892, A. Martin, of Berlin, read a paper on this subject. His conclusions were: 1. The ætiology of extra-uterine pregnancy remained, to the present day, veiled in the deepest obscurity. Certain hypotheses already advanced only explained isolated cases in a manner which did not defy criticism. The question could not be settled until the physiology of impregnation was better understood. 2. Most frequently the ovum was implanted in the tube. Ovarian attachment was less rare than recently supposed. Abdominal insertion of the ovum remained doubtful. 3. The diagnosis of ectopic gestation was a diagnosis of probability, except in cases where we could observe the development of the fetal sac outside the uterine cavity, or the development of an intra-uterine decidua without any distinguishable chorion, or when we discovered the the fetus itself. 4. The evolution of extra-uterine pregnancy rarely ended in retrograde metamorphosis (lithopedion mummification) without any intervening accident. As a rule, the death of the ovum occurred through hemorrhage into the fetal sac, or into the ovum itself. The blood escaped into the abdominal cavity, either out of the ostium of the tube (tubal abortion, properly so called), or by rupture of the tube, in its continuity, into the peritoneal cavity or broad ligament. The hemorrhage only ceased in exceptional cases. In most instances death occurred either from anæmia or from a peritonitis, the precise nature of which remained obscure. Ectopic gestation should always be reckoned as a dangerous neoplasm, and treated accordingly. Cases of development to term were so rare that to respect the interests of the child was to neglect totally those of the mother. 5. Consequently it would appear that operative interference, undertaken as soon as possible, was the right course in all forms of ectopic gestation. The fetal sac should be extirpated if possible. Treatment by hypodermatic injections of morphine cured very slowly. Treatment by electricity

could not yet be rated at its true value, as hitherto recorded observations on this method were not above criticism.

Electricity in Uterine Disease.—The following discussion is worthy of being published in full as showing the feeling at present existing in the minds of some of the most respected specialists in the union, regarding the treatment of uterine disease by means of electricity.—In *N.Y. Journal of Gyn'y. and Obst.*, Feb., 1892.

Dr. BACHE MCE. EMMET presented the specimen.

He said: The specimen which I here show is an immense uterine fibroid removed with the uterus entire on Saturday last: the ovaries, which are cystic, are also shown.

The patient from whom I removed these organs is forty years of age, nullipara; ten years ago she first noticed a growth the size of an egg directly in the centre of the hypogastrium, just about the fundus of the uterus. This grew rapidly until, when I saw her for the first time, two years ago, the growth had attained its present dimensions, size of uterus with child at full term.

At this time, I used powerful galvanic currents (250 milliampères) by thrusting two needles directly into the tumour through the abdominal wall, patient being under ether, of course. This I repeated, I think, six times at two weeks' interval. Some impression was made upon the growth at that time, and the symptoms of weight were much improved, so much so that the patient felt she could give up treatment, and her favourable condition did presist until recently.

She came back to me October 14th, telling me that her menses have been profuse and that she is very materially larger. I at once begin with the galvanism again, but this time applying it with the abdominal plate and vaginal balls. (It has been impossible to pass a sound into the uterine cavity.) I make long sessions with mild current; and from this time out I also restrict her to the Cutter diet. At two days' interval of treatment, by October 26th, some favourable action had been produced; the sensation of weight was much diminished, and a period which has just taken place was scant and lasted only two days.

In spite, however, of the local benefit produced, which was pretty continuous for upwards of a month, the patient began to lose her appetite, to fail in strength and flesh, and, finally, to complain of constant pain about the uterine mass, more especially at one point on the left side where there had been a recent development of a nodule. This decided me to lay before her the possibility of relief by extirpation and she consented.

This mass presents a large cystic portion on the anterior face, while the remainder is all firm and nodular, and, in view of the rapid failing of the patient during the past month with symptoms of septic cachexia, the question presents itself to my mind, and I would like to offer it as a subject for discussion, whether, once we have failed to produce any considerable benefit by the use of galvanism, it is not wiser to desist entirely and change our course in that, as I fear, we cause a rapid disintegration of tissue by electrolysis and subject our patient to sepsis which may prove fatal.

Dr. CURRIER thought that treatment by electricity, which had been mentioned by Dr. Emmet, could not be thrown aside as of no use, whatever might be one's predilections upon that subject. With many patients the thought of submitting to a dangerous operation was extremely repellant; they had to be educated up to its acceptance, and meanwhile, one should not through perjudice close his eyes to the power of electricity to at least temporarily lessen the profuse hæmorrhage and assuage pain. He referred to a few cases in his own practice in which galvanism controlled for a time hæmorrhage and the more urgent symptoms until the patient could be reconciled to the thought of an operation. In one the negative pole, by mistake of the instrument maker, was applied within the vagina and no benefit was derived, but when the positive electrode was introduced the hæmorrhage at once became less. The third case which he related was supposed by himself to be beyond relief by galvanism, yet it did for a time control pain, but later he operated and removed a sarcoma which, with the uterus and ovaries, weighed between thirty and forty pounds. He must, then, differ from those who believed that electricity always did harm.

Dr. BOLDT inquired of Dr. Emmet whether he wished to raise the question of the use of electricity in these cases.

Dr. EMMET replied that electricity had been employed in this case, and he questioned whether, judging by the appearance of the tumour, it would not have endangered the patient's chances by causing sepsis had it been persisted in.

Dr. BOLDT said he was convinced that electrolysis was one of the most dangerous of therapeutic agents. It was liable to produce just the conditions to which Dr. Emmet had called attention. The tumour underwent changes, was liable to break down by suppuration and cause septicæmia. This had occurred in cases which had come under his own observation, and he knew that it had in others. If electrolysis did not give relief, and the symptoms continued, he would not continue it, but would abandon the case unless an operation was granted.

Dr. WYLIE thought the question was certainly a practical one and also a very important one. He had never said much about the use of electricity in cases of fibroids until he had personally made it a study, and had had his first assistant study it two summers under Apostoli. He had reached these conclusions: That if electricity were used not as a destructive agent it gave practically no good results. It would sometimes control hæmorrhage, but in order to accomplish anything it had to be used so strong as to be destructive. But when used in that way it was, as had been shown in a number of cases operated upon subsequently, a dangerous method. If it were used as a cautery to the mucous membrane of the uterus it would stop hæmorrhage from that source, but he did not think much was to be gained by this mode of treatment. The hæmorrhage being due almost without exception to fungous growths, curettement, if it could be applied, would be more effectual and involved less risk. And to attempt to destroy the tumour with electricity was dangerous. Then, too, many cases were complicated, and if electricity were used it might prove very dangerous. For instance, in a number of cases it had been used, and in many others proposed, where there was pyosalpinx. In one of his fatal cases from operation the result was largely due, he

believed, to the fact that the patient had, during two years' treatment by electricity at the hands of another, become greatly reduced and could not be built up so as to withstand an operation. He had seen cases of large hæmatocele and local peritonitis produced by electricity.

Dr. H. MARION Sims believed that electricity used in the treatment of fibroids was productive of a great deal of harm in the vast majority of cases. In 1877, when electrolysis had something of a "boom," he purchased a fine apparatus and became quite enthusiastic over the treatment of fibroid tumours by electro-puncture, through the anterior abdominal wall or *per vaginam*. On looking back over that experience he could recall only one case in which the treatment had had the slightest beneficial effect. The one exception was in the case of a young lady from Arizona, in whom, after five or six months, the tumour shrunk to about two-thirds its former size and she said she felt much better. These remarks applied to large tumours. He had seen several small ones benefited by the treatment.

With regard to electro-puncture causing the breaking down of nodules into pus cavities within the tumour and producing blood poisoning, he could recall four cases of the kind with most disastrous results occurring within the last three years. The treatment had been made by experienced men. One patient whom he had seen last week had been under the care of an enthusiast in electrical treatment, and was then discharging immense quantities of pus through the rectum, due to breaking down of the fibroid mass within the pelvis. The odour was very offensive, and the patient was then very anxious to have something done in the way of an operation. In the case of a tumour which he had removed by laparotomy and which previously had been treated by electricity, he found it completely honeycombed by small abscesses. In another case, the patient had undergone treatment for two years by electrolysis, Dr. Pryor performed laparotomy and found the tumour had undergone a change similar to that in the other case named; it was rotten to the core. Only by prompt surgical interference at a certain stage of the symptoms was the woman's life saved.

Correspondence.

A CASE OF WOUND OF THE ABDOMEN.

To the Editors of THE MONTREAL MEDICAL JOURNAL.

Through the kindness of my esteemed friend, Dr. O. K. MacLean, of West Bay, C.B., I am permitted to publish the following abridged notes from a full and concise report prepared by himself, of a case which occurred in his practice during the sum-of 1891.

On Saturday, October 12th, of that year, a lad aged 12 years, while driving a truck loaded with hay through a gate, was suddenly squeezed with great violence between the truck shaft on one side and the gate-post on the other. He was carried to a farm house hard by, and, on being stripped of his clothing, it was found that from a large wound in the right side a mass of intestine was protruding. Fruitless attempts were made by a young man present to reduce the intestine. Meanwhile, a messenger had been sent after Dr. MacLean, who, on his arrival at the scene of the accident, discovered that a wound of six inches in length had been made about the level of the floating ribs, and from which a large knuckle of the colon, distended by its gaseous contents, protruded. It, together with the surrounding wound, was irrigated with a solution of corrosive sublimate and reduction quickly effected, after first squeezing the bowel so as to force the contained gas back into the main body of the intestine. From the jagged depths of the wound a venous hemorrhage followed, which was checked by the pressure of a small piece of sponge charged with a strong solution of lunar caustic.

The wound was then dressed on the usual surgical principles, small quantities of liquid food permitted and an opium suppository having been introduced into the rectum, the patient was left for the night. On returning next morning from his home, a distance of twelve miles, Dr. MacLean was informed that the lad had voided a large quantity of bloody urine. Counter irritation over the kidneys was effected, and one-tenth grain of

calomel administered hourly, when purgation followed in four hours. I should have stated that after reduction of the bowel an injection of warm water had been given to relieve any invagination or other mal-position which it might have acquired.

During this and succeeding days the pulse reached 120 per minute; temperature, 102. Slight delirium occurred and previous to the use of the calomel violent vomiting was almost continuous.

The case continued to improve steadily until three weeks later, when two small pieces of bone presented at the orifice of the now quickly healing wound, followed in a short time by the passage into the external wound of an intestinal worm six inches in length! Thereafter the case improved rapidly, and to-day the boy is evidently as well as ever.

The following is Dr. MacLean's explanation of the sequence of events, and, with him, I think most observers would agree:—"Perforation could not have been present just after the accident, for the intestine was *distended.* It is probable that a small splinter of bone, by friction against the bowel, produced ulceration and subsequent perforation." It is a fact to be noted that at no time before or after perforation did any fæcal matter escape from the wound. Dr. MacLean attributes this patient's recovery to the fact that adhesions formed between the visceral and parietal peritoneum, thereby preventing the escape of poisonous matter into the general peritoneal cavity.

C. P. Bissett, M.D.,
St. Peters, N. S.

TWO KINDS OF RING-WORM FUNGUS.

To the Editors of The Montreal Medical Journal.

Sir,—In September of last year, I sent you a short account of some of the more recent, and in my opinion, successful methods, adopted in the special skin departments of the various London hospitals, for the treatment and cure of tinea tonsurans, as usually seen in children.

Since then, I have had the opportunity of studying the

results of some very interesting and elaborate cultivation experiments, with the tricophyton fungus, carried out by M. Sabourand, house physician to M. le Dr. Besnier, at the St. Louis hospital, and I propose giving your readers an account, in as few words as may be, of some of the important clinical results which these experiments seem to point to.

The experiments themselves, including as they do the most careful examination of one hundred typical cases of tinea, and the preparation of over six hundred cultivations of the fungus on various media, are much too numerous to be described here.

M. Sabourand has found that nearly all cases of tinea, in Paris at least, are produced by one or other of two kinds of tricophyton, which he has called respectively, T. macrosporon and T. microsporon.

These two kinds of fungus he believes to be specifically distinct, and to be distinguishable not only in cultivations on different media, and under the microscope, but also clinically. The histological difference is as follows: The T. macrosporon shows large spores lying in a visible mycelium, arranged in definite lines in the mycelial branches, and these spores are for the most part included in the hair itself. The T. microsporon, on the other hand, shows small spores not lying in a visible mycelium; the masses of spores are arranged without order, in some places filling the hair, and elsewhere forming a sort of sheath around the hair.

The investigation of the clinical differences is still being actively carried on, but some of the results already obtained are very interesting and curious—thus, both varieties affect the hair of children and produce ringworm of the scalp, the large spored variety being responsible for a little more than one-third of the cases, and the small spored for nearly two-thirds. These proportions are those found in Paris, but it does not at all follow that the same proportions exist elsewhere; indeed, for many reasons, it seems highly probable that the percentage of T. microsporon cases is much greater in Paris than it is in some other cities. On the other hand all cases of tinea of the beard

and of non-hairy parts are found to be due to the large spored variety (T. macrosporon) and to it alone.

Again, from the point of view of treatment, the T. microsporon is much more obstinate and rebellious to all forms of treatment than the large spored variety. Thus at the school for children affected with ringworms, at the St. Louis Hospital, nearly all of those who had resisted treatment for upwards of a year were found to be affected by the small spore fungus.

While there are no doubt other species of trichophyton, *e.g.*, that producing the well-known tinea imbricata in the East Indian and Pacific Islands, it may be accepted as proved that these two kinds are those responsible for about 98 per cent. of all cases of ringworm occurring in France.

It will at once be seen how important these results are from a practical point of view. Where, for example, ringworm of the head is associated with ringworm on the body or limbs, as is so frequently the case in children, we shall be able in future to pronounce at once for the T. macrosporon, and with efficient treatment to hope for cure in two or three months' time; whilst on the other hand, if the microscope reveals the small spored kind we shall be advised of having a most chronic and rebellious condition to deal with.

As this is necessarily a short and somewhat imperfect account of the important investigations being carried on by M. Sabourand, it may be as well to refer anyone interested in the subject to the *Annales de Dermatologie et de Syphilographie*, for December, 1892, where a much fuller account of the numerous cultivation experiments made is given by M. Sabourand himself.

Yours very truly,

RANKINE DAWSON.

Reviews and Notices of Books.

A Manual of Bacteriology. By GEORGE M. STERNBERG, M.D.; 886 pages. New York, 1892: Wm. Wood & Co.

To write a comprehensive manual of bacteriology is a labour which bacteriologist after bacteriologist, however capable and however much he may have felt the need of some standard work of reference, has very naturally shrunk from undertaking. His subject is advancing with such leaps and bounds that naturally he has feared to see his work if completed and published become rapidly out of date. The literature of his subject has reached such dimensions that it requires a man endowed with much determination, a great organizer and an adept in the art of precis-writing, to master the task, while added to this there is such feverish activity displayed by his fellow workers that he may well pause before deciding to devote long months to the labour of recording the discoveries of others, in place of himself adding to the number of these discoveries. Now at length the work has been accomplished, and Dr. Sternberg deserves, and will certainly receive, the gratitude of all English-speaking bacteriologists for having summoned up courage to carry through upon so excellent a plan that which all others have refused to venture upon. In this manual we at last possess an authoritative and very complete book of reference. Others writing in German, French and English may have dilated more fully upon the technique of the subject, upon its history, upon the classification of microbes, and upon this or that aspect of bacteriology, but not until now has anyone covered the whole ground with the sureness and power as has the author of the manual before us.

Dr. Sternberg divides his book into four parts, the first dealing with classification, morphology and general technology; the second with the general biology of bacteria; the third and largest (326 pages), with the pathogenic, and the last with the saprophytic bacteria—those found in the air, water, soil, food and putrefying substances. Following upon these he gives two most valuable sections, the one upon bacteriological diagnosis, wherein he tabulates the various

species and gives the numerous synonyms which, in the absence of any good and full work of reference, have multiplied rapidly; the other, equally valuable and well arranged, upon the bibliography of the subject, this comprises no less than 2,582 headings. The first part is, as a whole, commendably brief; only the landmarks, for instance, are given of the history of bacteriology, only the most useful methods of staining, and those culture media which are in commonest employment. Among these the egg and egg-albumen might have found a more extended notice, for not only is the egg of interest historically as being one of the earliest media used for the culture of pathogenic bacteria, but at the present moment it is coming more and more into favour. The relationship of bacteria to other forms of life might also have received a lengthier treatment. The simple statements that certain authorities insist upon their affinities to the algæ, while others consider them to be fungi, and that practically the fight ranges around the importance to be attached to the absence in them of chlorophyll, are scarcely adequate in a volume of this importance. Doubtless the botanists have fought and have muddled the matter terribly, but to say that by considering the bacteria a distinct class of unicellular vegetable organisms we may avoid the difficulties into which the botanists have fallen, is to avoid discussing the relationship to other forms of life—it is to shelve and not to solve the problem.

A chapter in this first part which might be improved is that upon the culture of the anærobic bacteria. In this Dr. Sternberg does not lay sufficient stress upon the fact that the total removal of free oxygen from glass and other vessels and from culture fluids is a matter of extreme difficulty—so much so that without doubt the forms which he describes as "strictly anærobic," notably the bacillus of tetanus, are not by any means so; they can, and most often do, flourish in the presence of a minute quantity of free oxygen. By a slip (worth perhaps a passing notice) the author throughout this chapter in speaking of oxygen leaves out the word "free." It is evident also from his remarks upon sterilisation that the author has been accustomed to work with the clumsy autoclave of the Berlin makers, for anyone who has used Wies-

negg's admirable instrument and discovered its time and labour-saving properties would surely have written otherwise upon the value and the expedition of employing super-heated steam as a steriliser for almost everything except gelatin.

With the biology of the bacteria Dr. Sternberg deals more fully; and, in the matter of the influence of physical and chemical agents it might be thought almost too fully (in relation to the rest of the work); but in this, the excellent researches that he has himself carried out upon antiseptics and disinfectants, and his peculiar knowledge of this branch of his subject will be held by all to be an ample excuse. It would have been well had he treated the important matter of the 'toxalbumoses' with equal completeness. I say 'toxalbumoses' rather than with him 'toxalbumins,' in that I cannot but recognise that Brieger and Frænkel, the introducers of the latter term, obtained the series of these bodies from the pathogenic bacteria at a time when one of them at least might have been expected to be well acquainted with Hankin's work upon the anthrax-albumose, carried out but a few months previously in the laboratory to which he was attached, namely, Koch's, and that they obtained them by methods practically identical with those of Hankin, namely, by the generally accepted processes for separating the *albumoses* from other proteids. The author, in giving to these two Berlin observers the place of honour in this matter, gives them more than their deserts. English observers have, thanks to a degrading law, contributed so little to the advance of bacteriology that that little, where valuable, may well be recorded. It is to regretted that Dr. Sternberg has—I imagine unintentionally—rather neglected that little; thus nothing is said with regard to Dallinger and Drysdale's observations, made long years before Lœffler, upon the existence of cilia in the bacteria, and sufficient credit is not given to Ogston, of Aberdeen, for his undoubted priority in the matter of gaining pure growths of "cluster" and "chain-cocci" from the pus of abscesses.

On the other hand, it is a matter for congratulation that American observers obtain at last the recognition they so well deserve, and which for so long has been but imperfectly meted out to them in the publications of the other side of the Atlantic. To give but one example: Dr. Sternberg's own

work upon the micro-organism of croupous pneumonia, and his priority in the discovery of the same, has been passed over by writer after writer, so too his views upon the defensive action of the leucocytes, and upon phagocytosis, in which he anticipated Metchnikoff. The chapter in which he details these early views and studies—that upon Susceptibility and Immunity—is throughout excellent. I know of no better and more sober and impartial criticism of this most interesting subject than is here contained. The author takes what seems to me the only possible course, a "via media" between the opposing schools. He freely admits the importance of Phagocytosis, at the same time he sees that this will not explain everything, and that possibly the blood-plasma can contain antitoxines, the bodies that is, which antagonise the toxines produced by the pathogenic bacteria in their growth within the body. It would have been interesting had he given to us his opinion as to the site of origin of the antitoxines. There they undoubtedly are, but where do they originate? How is it that they are present in far larger quantities or are much more active in the blood serum—after removal from the body—than in the circulating blood plasma?

I have written so much upon Dr. Sternberg's exposition of the general principles of the subject as to leave little space for criticism upon what will be the most valuable portion of his work—for workers: I mean his detailed accounts of the various species of bacteria. Suffice to say, that the value of these lies in the care with which he has collated the authorities upon each separate form, so that the morphological, cultural, and other characteristics of each, are set down with a conciseness and accuracy which must render this the standard work of reference. When it is taken into account that nearly 500 separate forms are described, the descriptions epitomising the monographs of the original authorities, some idea may be gathered of the magnitude of the task which Dr. Sternberg has so successfully accomplished. Little wonder that the author has confined himself to the Schizomycetes, and has not included in this work any account of the moulds—pathogenic and otherwise—or of the microbic animal parasites, such as hæmatozoon malariæ, the sporozoon or the amœba coli. Between the bacteria and the moulds he has

found it difficult to draw the line, thus he includes the microbe of "Farcin de bœuf" among the bacilli. I believe I am justified in stating that Nocard, its discoverer, now recognises the hyphomycete nature of this. A study of its growth and stages of development assuredly lead us to place it very close to forms such as the Actinomyces. It is to be hoped that a companion volume, treating worthily of these other pathogenic microbes, will not be long in making its appearance.

I feel that it is almost ungracious to criticise individual small shortcomings in a work which, as a whole, merits such high praise, yet I think that our very appreciation of it may be taken as an excuse for pointing out details which might with advantage be emended in the next edition. I would suggest that bacteriologists in general would forgive Dr. Sternberg were that next edition less sumptuous; were the paper not so thick; the large type somewhat smaller; the tables at the end in double columns; were the volume rendered altogether more handy. In making this suggestion I speak feelingly, for having borne the book to and fro several times during the last month I have found it to be indeed weighty in more senses than one.

A last word deserves to be said with reference to the illustrations which, whether woodcuts, photographs or coloured plates, are uniformly good. Altogether we owe a heavy debt of gratitude to Dr. Sternberg.

J. G. ADAMI.

The Anatomy and Surgical Treatment of Hernia.

By HENRY O. MARCY, A.M., M.D., LL.D., late President of the American Medical Association, etc. Illustrated with seventy full page heliotype and lithographic reproductions from Cooper, Scarpa, Cloquet, Camper, Darrach, Langenbeck, Cruveilhier, and others of the Old Masters, and thirty-four woodcuts in the text. New York: D. Appleton & Co.

The anatomy of the parts involved in the different herniæ is described at length by the author, and also the causes tending to the production of this condition. The remarks on instrumental supports are very timely and useful in these days when new trusses are being continually devised. As the

author says, little real advance in the art of truss-making has taken place since the days of Sir Astley Cooper, and the advice given by the latter to apply the pressure over the internal ring still holds good; indeed his description of the truss is as applicable now as in his day. Irreducible and strangulated herniæ are taken up under their proper headings, according to the ring by which they have exit. The rarer forms of hernia, as ischiatic and diaphragmatic hernia and hernia of the foramen ovale, are dealt with and cases cited. The necessity of promptness in undertaking any operative procedures is urged and the fatal consequences of delay are graphically detailed. "There can be but one rule, and it is impossible to emphasize too greatly its enforcement, regardless of the variety of hernia or the causes which have led up to the strangulation of a portion of the abdominal contents. Each hour of delay in its reduction adds to the difficulty of its accomplishment, and almost in geometric ratio increases the danger to life." Chapter XXIII on the animal suture is a complete exposition on the subject, giving the history and use of such ligatures up to our own time. Kangaroo tendon is given the preference as the most reliable substance, the author quoting, "Tendon ligatures are of uniform and trustworthy composition, fashioned by the hand of Nature, instead of being prepared by a process involving an uncertain amount of decomposition." The history of modern antiseptic methods, both in Europe and America, is given, as well as the results. The conditions rendering operation necessary and the best operation to perform are discussed very clearly, statistics being given in proof of the assertions. Dr. Marcy has performed his task in a most creditable manner and the book is published in a manner worthy of him.

An American Text-Book of Surgery for Practitioners and Students. Edited by WILLIAM W. KEEN, M.D., LL.D., and J. WILLIAM WHITE, M.D., Ph.D. Profusely illustrated. Philadelphia: W. B. Saunders.

This book is the work of thirteen of the best known surgeons in America. The articles are all unsigned, and the entire book was submitted in proof-sheets to all of the authors

for mutual criticism and revision. The result is the book before us, and it may be fairly taken as an expression of general surgical opinion of the present day on this continent. The work is made up of four divisions on (1) General Surgery, (2) Special Surgery, (3) Regional Surgery, (4) Operative Surgery. Much of what is recorded in these pages is new, being the result of the experience and original research of the authors. The opening chapters on surgical bacteriology, inflammation and its results, are excellent resumés of the present state of knowledge of these subjects, and the same spirit pervades the whole book. The illustrations are in keeping with the text, and having had the privilege of seeing some of the cases and specimens from which they were taken we can testify to their accuracy as well as their artistic merit. Although this work has been issued only a few months it has had a phenomenal success. Forty-nine medical colleges and universities have adopted it as a text-book, and nearly five thousand copies have been sold. Such a record speaks more for the excellence and usefulness of the work than anything we can say.

The Diseases of Children, Medical and Surgical. By HENRY ASHBY, M.D., London, F.R.C.P., and G. A. WRIGHT, B.A., M.B., Oxon, F.R.C.S., England. Second edition edited for American students by WM. PERRY NORTHRUP, A.M., M.D. Longmans, Green & Co., New York and London, 1893.

Among the many excellent additions, during the past few years to our literature on diseases of children, this book deservedly occupies a prominent place. Written conjointly by a physician and surgeon, it represents an unusually extensive experience in one of the large English hospitals for children, an institution in which some 1,200 in-patients, and 10,000 out-patients are treated annually. Careful systematic records have been kept of all their cases, and these are utilized throughout the work to illustrate the text. As a result we have an eminently practical work, in which the authors place before us, not only the result of their own observations, clearly stated, but also the result of the more recent researches both in Europe and America. In the opening chapter an excellent

resume is given of the physiology of infancy and childhood. Infantile hygiene and dietary is carefully treated, and full reference is made to the important contributions on this subject by American investigators, especially Rotch and Meigs. The amount of disturbance produced by dentition, they assert, will depend much on the infant's strength. A strong vigourous infant, brought up at the breast, will cut its teeth one after another without trouble; but if the infant is ricketty, weakly, or the victim of hereditary tendencies, the period of dentition will be a period of danger. Under certain conditions they recommend the use of the gum lancet. In the article on Zymotic Diarrhœa, the authors condemn the use of opium in the early stages, as useless and harmful, and recommend strongly the use of antiseptic remedies in the hope of checking putrefactive changes, and preventing the development of toxic products. We regret that more reference is not made to the value of washing out the lower bowel, and occasionally the stomach. In speaking of peritonitis insistence on absolute rest is carried so far as to condemn the use of enemata, a means of relieving tympanites which in our hands has appeared to be of much service.

The chapters on the diseases of the respiratory apparatus appear to us particularly well written.

The differences between the *post mortem* changes found in children as compared with those found in adults, are summed up as follows:—

1. The frequency with which the lungs in children are involved with tubercular deposits from the root of the lung in consequence of an infection from caseating glands. 2. The frequency with which the lymphatic glands of the body become tubercular. 3. The frequency with which caseous degeneration takes place. 4. The frequency with which the abdominal organs are the seat of tubercular changes. 5. The frequency of tubercular meningitis, and of caseous tubercle in the brain.

The principal clinical differences between chronic phthisis in older children and in adults are stated as follows:—

1. Frequency with which children in the first stage recover.

2. Frequency with which the disease is brought to an abrupt termination by some acute tubercular affection.

3. Comparative rarity of hæmoptysis in the early stages, and of laryngitis in the later stages.

4. Frequency of complication with abdominal tuberculosis.

5. Comparative rarity, as compared with that of adults of extensive cavities in the lungs.

The section on diseases of the nervous system is very complete, and the remarks on treatment eminently practical.

The chapters on the surgical diseases of children are well illustrated both by engravings, and the histories of illustrative cases. Separate chapters are devoted to disease in the nose, ear and skin.

Chapters on injuries, hæmorrhage and anæsthetics end the work.

The appendix is written by Dr. Northrup, of New York.

In his addition the editor strongly recommends the use of calomel fumigations in the dyspnœa of membranous laryngitis. These fumigations should be given every two or three hours, for periods not exceeding fifteen minutes. Nurses he says may be salivated if unduly exposed, but children rarely are. In general much benefit is experienced. As a heart stimulant in pneumonia and diphtheria he speaks highly of the combination of strychnine, digitaline and aconitine, given in the dosimetric granules prepared by Chantrand of Paris. The various orthopædic apparatus in use in the New York hospitals are described, and at the close a series of formulæ are given suitable for infants and children. We have much pleasure in strongly recommending this book. It is pleasantly written, the engravings are numerous and well executed, and the mechanical execution is faultless.

A Dictionary of Psychological Medicine—Giving the Definition, Etymology and Synomyms of the Terms used in Medical Psychology, with the Symptoms, Treatment and Pathology of Insanity, and the Laws of Lunacy in Great Britain and Ireland. Edited by D. Hack Tuke, M.D., LL.D., Examiner in Mental Physiology in the University of London; Lecturer on Psychological Medicine at Charing Cross Hospital Medical School. Vol. I and II, Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street, 1892.

This extensive work in two volumes covers the entire range of psychiatry and allied subjects. Although in the form of a

dictionary it is not by any means a work treating of the different subjects in a fragmentary manner; on the contrary all important conditions are dealt with in a very complete, and we may say also in a very able manner. Among the contributors we find many of the leading chemists and neurologists of Great Britain, Germany, Italy and France. Clifford Allbutt, James Anderson, Thomas Barlow, Blandford, Buzzard, Clouston, Victor Horsley, Bevan Lewis, Charles Meicier, Julius Mickle, Savage, D. H. Tuke, J. Batty Tuke, Francis Warner, are a few among the many English contributors. The work is especially adapted for the needs of the general practioner. It contains all the information he is likely to need in connection with the diagnosis and treatment of mental diseases.

Tuberculosis of Bones and Joints. By N. SENN, M.D., Professor of Practice of Surgery in Rush Medical College; Professor of Surgery in the Chicago Polyclinic; Attending Surgeon Presbyterian Hospital; Surgeon-in-Chief St. Joseph's Hospital; President of the American Surgical Association; President of the Association of Military Surgeons of the National Guard of the United States; Permanent Member of the German Congress of Surgeons, etc. Illustrated with 107 engravings (seven of them colored). In one handsome royal octavo volume; 520 pages. Philadelphia: The F. A. Davis Co., Publishers, 1231 Filbert street.

The author has collected all the modern ideas on this subject and, after submitting them to the test of his own experience, has given them to the world in this volume. Of the importance of the subject we need not speak, especially as these diseases are becoming more common all the time. The diagnosis and pathology are fully discussed and considerable space is given to the treatment, especially by operation. The treatment by rest might with advantage be dealt with at greater length, but in compiling such a mass of information it is difficult to decide what to leave out and what to retain, while keeping the book within reasonable limits. Tuberculin treatment is described, but only to condemn it utterly. The ultimate results of operation according to different observers are given, and the prognosis of the various tubercular diseases

of the bone and joints fully dealt with. In short, the book is an excellent epitome of the present state of our knowledge of this subject, and should be read by all who are interested in this disease.

Twenty-Third Annual Report of the State Board of Health of Massachusetts.

This report contains the general work of the State Board of Health for the year ending September 30th, 1891, together with certain papers on special topics relating to public health.

It contains a large amount of interesting information regarding water supplies throughout the State, sewage and the filtration thereof, food and drug inspection, and much more of like import. The special reports are particularly valuable, and in a future issue we will publish extracts from them, as in the limits of an ordinary review we cannot do justice to this report.

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Society Proceedings.

THE MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, December 9th, 1892.

JAMES STEWART, M.D., PRESIDENT, IN THE CHAIR.

Paramyoclonus.—DR. STEWART exhibited a middle aged patient, who has been affected with a peculiar myoclonic trouble for upwards of fifteen years. The spasms which are almost constantly present are partly clonic and partly tonic in character. They affect the muscles of the neck, face and trunk only—the extremities being free.

Dr. LAFLEUR asked if there was any hereditary history and if the case might be one of senile or Huntingdon's chorea.

Dr. STEWART replied that as far as he could ascertain there was no neurotic family history. It was not a case of Huntingdon's chorea, which is characterized by the sliding, jerky movements in walking and which are entirely distinct from the movements in this case.

Acute Hæmorrhagic Pancreatitis with Fat Necrosis—Glycosuria; Symptoms those of Peritonitis.—Dr. FINLEY exhibited the specimens and stated that the case had been looked upon as one of peritonitis. At the autopsy there was no evidence of peritonitis or obstruction. A distinct mass in the position of the pancreas was felt and on removal the organ was seen to be greatly enlarged, weighing 380 grams. On section the gland was studded with numerous purplish-colored hæmorrhages, varying in size from a small pin head to one-fourth of an inch in diameter. A number of small round opaque white areas, like tallow, representing fat necrosis, were present on the surface of the gland and a few scattered through its substance. None of these were larger than the size of a split pea. There was no fat necrosis in the omentum, but a few small areas in the immediate neighborhood of the pancreas. Some of the fat lobules were surrounded by a fringe of this necrosed fat. There was a small thin patch of lymyh lying on the surface of the organ. The mesenteric and splenic veins were normal.

A specimen of the urine analysed by Dr. Ruttan was found full of mucin, no albumen, sugar 1.66 per cent., no acetone, no diacetic acid, urea 8.5 grs. to fl. oz., bile pigments and bile salts in excess. The usual symptoms of this affection were those of peritonitis. One of the most interesting features of the case was the presence of sugar in the urine, and so far as he could ascertain no previous mention of this was recorded.

In view of recent investigations on pancreatic diabetes it was not unlikely that sugar might prove to be a constant constituent, and if so would be a valuable diagnostic sign. The presence of bile pigment might perhaps be referred to pressure on the common bile duct by the enlarged pancreas.

Fat necrosis has been frequently noticed in hæmorrhagic pancreatitis, but its significance is not altogether clear. It has been explained by some as due to trophic changes from interference with the nerves of the solar plexus, and by others it is regarded as due to pressure interference with the vascular supply.

REPORT BY DR. J. G. ADAMI.

Upon section the pancreas as a whole was of darker colour than usual, and presented several blackish blood stained areas varying in diameter from 3 to 12 millimetres. That organ was surrounded by a moderate amount of fat, having an abnormal appearance, for scattered over its surface and through its substance were small whiter masses, differing also from the rest of the fat by their opacity. The periphery of the gland was altered, there being no well defined boundary between the gland and its investing fatty tissue.

Microscopic examination showed that the gland had undergone much chronic degenerative change; it was fibroid, and presented abundant evidence of atrophy of the panereatic follicles. This was especially marked towards the periphery. Here were numerous small regions in which fat cells replaced the atrophied gland tissue. The hæmorrhages into the gland were of sufficiently long standing to have permitted the staining of the cells of the affected areas with blood pigment. Sections made by the paraffin method and stained with hæmatoxylin showed well the extensive fat necrosis, both within and around the gland. The necrosed fat cells con-

trasted clearly with the unaffected in that they took on a diffuse cloudy stain.

It was noticeable that while there were evidence of acute inflammation here and there throughout the fatty tissue, there being slight infiltrations of small round cells between the fat cells, nevertheless, these inflammatory foci were not in direct association with the necrosed areas. Between the necrosed cells no infiltration was discernable. The extravasated leucocytes lay between clear unaffected cells at some little distance from the patches of necrosis. In this the sections resembled those brought recently before the Pathological Society, of London, England, by Dr. Rolleston (*British Med. Journal*, Oct. 22nd, 1892, p. 895), and differed from the description generally given (Fitz. *Med. News*, Feb. 23rd, 1893.)

Thus the sections suggest forcibly that the pancreas in this case had been the seat of long continued changes. The fibroid degeneration, the atrophy of the pancreatic cells proper, the presence of fat replacing the atrophied tissue, all point to this conclusion. The hæmorrhages and the small foci of inflammation are evidences of more acute disturbance of the organ during the days immediately preceeding the fatal issue. In the absence of satisfactory observations upon the rate at which fat necrosis proceeds it is not possible to state with certainty whether this necrosis is associated with the acute lesions of late date or whether it had preceded these in its onset. This case, at least, does not show us that the necrosis is a direct result of acute inflammation.

Dr. JAMES BELL said that he had been hurriedly summoned to the hospital to see the man who was supposed to be in an advanced stage of peritonitis. History given was that on Tuesday night he had been awakened by a cramp in the stomach, but he went to work on Wednesday morning, but was compelled to go home by the pain in the abdomen. When brought to the hospital there was great pain with distention and tenderness of the abdomen, inability to move the bowels, vomiting and, in fact, all the signs of a general septic peritonitis. He (Dr. Bell) considered the case hopeless and was greatly surprised at the result of the autopsy.

Dr. J. A. MACDONALD had seen the case before he went into hospital and thought that it was one of peritonitis; one feature

was the great difficulty in passing urine and the diminution of the quantity.

Dr. LAFLEUR referred to a similar case that had been under the care of the late Dr. Ross and had been reported before this society (MONTREAL MEDICAL JOURNAL, vol. 17, page 380). The patient had suffered for a time from obscure dyspeptic symptoms and one day was suddenly taken ill with symptoms of general peritonitis and died. The conditions found were the same, though more intense than in this case, some of the hæmorrhages were recent, while some were old and almost fibroid. He could not say if there had been fat necrosis, as that condition was not recognized at the time. Fitz, of Boston, has written more than anyone else on the subject of fat necrosis, and in performing coroners' autopsies has found that a number of sudden deaths in the streets were due to this cause. He (Dr. Lafleur) asked if the veins in the splanchnic area were dilated, for he thought if such was the case the pressure on the cœliac ganglia might have been the immediate cause of death.

Dr. SMITH asked if there were other hæmorrhages throughout the body, and how was it known that the spots were fat and not transformation of blood clot into fibrous tissue. Could the hæmorrhages be due to septicæmia.

Dr. FINLEY, in reply to Dr. Lafleur, said that the veins of splanchnic area were not dilated. In reply to Dr. Smith, said the spots had been analyzed and found to contain stearine and fat crystals, they were distinctly fatty and not fibrous.

Case of Symphysiotomy.—Dr. SPRINGLE read the report of this case which appeared in the January number.

Dr. WM. GARDNER congratulated Dr. Springle for having performed this operation for the first time in Canada. It is a procedure that is bound to become popular, and is another of the revivals in surgery brought about by the introduction of antiseptics.

Dr. SMITH thought the operation a safe one and presented but few difficulties. He understood how that it will increase the total circumference of the inlet, but did not see how it would increase the antero-posterior diameter.

Dr. SHEPHERD thought that a future pregnancy might be affected. He had in his possession several pelves in which the

joint is ossified, and thought that after the operation the same condition might be induced.

Dr. LOCKHART had assisted Dr. Springle, and when he first saw the patient she had been in labour twenty-four hours. The subject for hesitancy was whether the child should be removed by cæsarian section or symphysiotomy (craniotomy not being thought of). The former procedure would have necessitated the removal of the patient to the hospital, thus causing further delay.

Dr. GORDON CAMPBELL said that there was no difficulty in showing that the antero-posterior diameter was increased. Taking a line drawn from the promontory of the sacrum to the symphysis pubis as the diameter of a circle passing through these points, after the operation this line will be no longer the diameter, and it is a mathematical law that any straight line drawn in a circle, other than the diameter, is less than the diameter.

Administration of Ether by Clover's Inhaler.—Dr. GORDON CAMPBELL read his paper on this subject.

Dr. ALLOWAY said that he had been using this form of inhaler for a long time and it has unquestionable advantages over all other forms.

Dr. GEORGE BROWN had been using it for three years and agreed with everything mentioned in the paper. With men there is generally a stage of rigidity and the administration takes longer than with women. He has used the cone and Allis' inhaler, with which there is usually fear and struggling, whereas with Clover's, patients take the ether quite easily, and at a subsequent administration receive it with less fear. He thought that there was less vomiting and less depression after administration, and he never had any ill effects during an operation, except now and then a spasm of the glottis, which is at once relieved by raising the hyoid bone and pushing forward the jaw.

Dr. WM. GARDNER was first induced to use Clover's inhaler by having seen it in Mr. Lawson Tait's practice in 1886, and has never willingly used any other form since that time. He has given up the use of a mixture of ether and chloroform and has stuck to pure ether and now sees no reason to regret it. Another advantage is the prevention of the diffussion of ether

through the room, which is a great comfort to a sensitive person. He bore testimony to every word Dr. Campbell had said, and had been struck by the extremely short space of time taken by him to anæsthetize the patient, and also the rarity of vomiting on the operating table, which he thought was due to the care of the anæsthetist to the signs of complete anæsthesia.

Dr. BIRKETT, when resident in the General Hospital, had kept a record of eighty cases of the administration of pure ether with Clover's inhaler, and his observations confirmed the remarks of Dr. Campbell. He had used it with all sorts of patients, and it was the most successful method employed.

Dr. BELL did not think that there was any difference of opinion as to this method of giving ether, when it was in careful hands, but considered it dangerous in inexperienced hands. A case had nearly ended fatally from the neglect of one point, that of putting ether into the inhaler, and the patient was almost asphyxiated. He could not help but think that the patient must inhale vitiated air from the bag, but the precautions mentioned would reduce this danger to a minimum. He felt that the more concentrated the vapour at the beginning of anæsthesia the better, but the great danger arose in giving too much ether after the stage of complete anæsthesia had been reached, and the respiratory centre may be so blunted that it may fail to act. He admitted the advisability of giving it well diluted at the start, but it should be rapidly concentrated. He had never seen suppression of urine or bronchitis following ether, nor any pulmonary condition, except secretion of mucus.

Dr. SHEPHERD thought from his own observation that the the method was valuable. He did not think that the paper referred to alcoholics, and asked if Dr. Campbell had observed tremors, amounting almost to rigors, which condition would make him stop ether and substitute chloroform.

DR. MCCONNELL said that every one present seemed to prefer Clover's inhaler, the chief points in its favour being the small quantity of ether used, and the rapid effects; but the latter is a matter of skill in administration. He did not like the idea of re-breathing air. It is a mistake to think that if we use a large amount of ether with Allis' inhaler that the patient

gets a larger quantity than if a much smaller quantity is used in Clover's. He thought Allis' is far safer for general use.

DR. WM. GARDNER regretted to have to record a death last summer. The patient was blanched by prolonged hæmorrhage from malignant disease. He had decided to remove the disease through abdominal incision. The patient was at first placed in the lithotomy position, and everything went well for fifteen minutes when she stopped breathing, and soon afterwards the heart stopped; but though artificial respiration was kept up for three-quarters of an hour, she died. In this case he in no way blamed the inhaler or the anæsthetist.

DR. STEWART asked if observations had been made as to the condition of the shallow and deep reflexes.

DR. CAMPBELL, in reply, said that he had seen marked tremors in one case. A recent writer in the *British Medical Journal* had ascribed this condition to asphyxia, and it indicated that ether should be given in a less quantity. He agreed with Dr. McConnell that the patient requires about the same amount of ether to induce anæsthesia, independent of the kind of inhaler used. The skill in using Clover's is very much over-rated, for if one would read the article on the subject in *Treves' Surgery*, he could easily use it. He had had no experience in emergency cases. The abolition of the corneal reflex is not indicative of full anæsthesia, and the reflex from the perineum and anus is the last to disappear. At present he is trying to work out the action of ether on the secretion from the kidneys, and will give the results later on.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

REPORT OF THE SPECIAL COMMITTEE APPOINTED AT THE LAST MEETING OF THIS SOCIETY.

Infectious disease is preventable disease, whether the mode of infection be direct—from person to person—or whether it be indirect through the agency of water, soil or clothing. As such it ought to be prevented. It is for us and for the community at large to use every endeavour towards that end.

Granted that we can recognize surely the nature of a given infectious malady at a sufficiently early date, we can then stay that malady from spreading so as to affect other

individuals, we can prevent it from assuming an epidemic character.

Thanks to the bacteriological discoveries of late years, we now possess this power of early diagnosis in connection with not a few of the most important—that is to say, the most widespread and fatal of infectious disorders. We can demonstrate the minute organisms which are the cause of such diseases as tuberculosis (phthisis), typhoid, diphtheria and cholera.

With respect to typhoid, the infection has long been known to be indirect, but now we can determine the presence of the specific bacillus of this disease in the intestinal contents of those suffering from the disease; we can trace its presence in the excreta and in water which has become contaminated by the leakage into it of the sewage of an affected locality, and from this water can trace its passage into milk and other fluids that have been placed in vessels washed in water.

So, too, with respect to cholera. Here also the infectious agent passes often with the excrementitous matter into the water supply of a large area, it may be, and thereby the disease becomes widespread. In this water, as in the intestinal contents, the presence of the minute organisms associated with the disease may be demonstrated. If, then, with any of the above-mentioned diseases the nature of a solitary case be recognized, we can prevent the extension of the disease to others by isolation of the patient, and by rigorous disinfection of excreta, clothing, and of the sick chamber and its attendants. The case will remain isolated.

It is evident, therefore, that the early diagnosis of infectious diseases is of the highest importance to the community.

The more perfect the system whereby each case of infectious disease is promptly notified, and any doubtful isolated cases subjected to careful bacteriological investigation, the greater the security of the community at large, the less the death-roll.

In Montreal, as in every large centre of population, it is necessary in the first place that there be compulsory notification of infectious disease to the central authority—namely, the Medical Health Officer,—and, in the second place, that there

be a competent bacteriologist to control the clinical diagnosis of doubtful cases, and to trace bacteriologically the channel by which a given disease has spread from one individual to another.

Taking first the subject of compulsory notification, your Special Committee has learned, with regret, that not a few practitioners in this city have evaded their duties in this respect, and, instead of helping, have thwarted, however unintentionally, the efforts of the Medical Health Officer. At the same time your committee would call attention to the fact that, with his office undermanned, it is impossible for the Medical Officer to perform his duties satisfactorily. A staff of assistants is urgently required, whose duties it would be to gain particulars connected with each case notified—duties which one individual, however willing, clearly cannot perform—duties which unperformed render notification of little avail.

Nevertheless, had each case at the commencement of the recent outbreak of typhoid in our midst been properly notified, the necessity for action in connection therewith would long ago have been discovered.

In the second place, the fact that bacteriology is a very special new branch of medical education, requiring not only special training but also special laboratory appliances, renders it impossible for the ordinary practitioner satisfactorily to undertake the bacteriological diagnosis of disease. It is therefore necessary that there should be attached to the Health Office a bacteriological laboratory in the charge of a well-trained observer.

Your special committee has taken into consideration the question as to whether the bacteriologist and his laboratory should preferably be in connection with the Provincial Board of Health, or with the City Health Office. They hold that while, in view of the very possible invasion of this Dominion by cholera this forthcoming summer, it is undoubtedly of the highest importance that the Province be provided with a competent bacteriological adviser, whose duty it would be to determine the nature of every doubtful case of choleraic diarrhœa, and to advise with regard to effectual disinfection of immigrants and their belongings; nevertheless, since their present mission is to report upon matters concerning

Montreal and its immediate neighbourhood, they must advise that a skilled bacteriologist be attached to the City Health Office. They do this with confidence, in the assurance that the larger question may safely be left to the Provincial Board of Health and its very capable head.

Against the possible objection that Montreal and its officials have no authority over those outside the city's boundaries, they would urge that though they have no direct authority, yet their indirect authority is such that they can become masters of the situation. They can certainly control the city's water supply; and with regard to another potent source of infection, namely, the milk supply, it is in their power to add to the conditions attached to the milk licenses a proviso that such licenses be only granted upon the condition that the city authorities reserve the right to obtain samples of the milk for examination wherever and whenever it seems fit to them, and to peremptorily rescind such licenses permitting the sale of milk within the city boundaries, if it be found that the condition of the stables and dairies is such as to constitute a danger to public health.

A city by-law to this effect is already in existence, but your committee learns that it is rarely acted upon. Your committee is strongly impressed by the necessity for more thorough milk inspection. More is wanted than occasional examination to determine whether milk has been diluted or has been deprived of its fats. No article of food forms a better field for the growth of micro-organisms than milk; and the presence and growth in this fluid of filth bacteria in consequence of imperfect cleansing of utensils, or mixing the milk of different days, of undue care in carriage, appear to your committee amply sufficient to explain a large proportion of the cases of cholera infantum or cholerine which here in Montreal assumes each summer so alarming and fatal a character. Thus the city has the power to regulate the milk supply, and in this and similar ways is capable of controlling the surrounding districts.

Your committee recognize that for the hygienic laboratory attached to the Health Office to be complete a chemical department presided over by a competent organic-chemist is a *sine qua non*. They fear, however, to urge this matter too

strongly at the present moment, believing it wiser to demonstrate the necessity of one reform, in the hope that this may be the means of leading to others in the not distant future.

Your committee would therefore submit to the society the following resolutions:

1. That for the maintenance of public health and to prevent the spread of infectious disease, this society emphatically endorses the city regulations which demand that practitioners report each and every case of infectious disease occurring in their clientele.

2. That in the opinion of this society the staff of the Medical Health Officer should be increased in order that the spread of infectious disease be traced and its further advance hindered.

3. That this society urgently requests the authorities of the city of Montreal to appoint a skilled bacteriologist upon the staff of the Health Office, whose duties shall be to investigate the origin and spread of infectious disease within the city in accordance with the resources of modern hygiene and modern medicine, and to advise the office upon the measures to be taken in order to eradicate such disease or to stay its further progress.

JAMES STEWART,
J. C. CAMERON,
J. G. ADAMI,
WESLEY MILLS,
D. McEACHRAN.
F. W. CAMPBELL.

TYPHUS FEVER IN JUAREZ.—During the year ending with June last there were treated in the hospitals 1,320 cases of typhus fever, with 355 deaths.—*Texas Sanitarian.*

Man born of woman is of few days and no teeth, and indeed it would be money in his pocket sometimes if he had less of either. As for his days, he wasteth one-third of them, and as for his teeth, he has convulsions when he cuts them, and as the last one comes through, lo! the dentist is twirling the first one out; and the last state of that man's jaw is worse than the first, being full of porcelain and a roof-plate built to hold blackberry seeds.—*Burdette.*

THE

Montreal Medical Journal.

VOL. XXI. APRIL, 1893. No. 10.

MEDICAL LEGISLATION IN THE PROVINCE OF QUEBEC.

The recent attempt made by certain members of the profession to have a bill passed by the Legislature greatly modifying the present regulations as to methods of study and qualifications for practice in this Province has fortunately been frustrated. The present regulations of the College of Physicians and Surgeons are in many ways antiquated in the extreme and call loudly for change, but not for a retrograde change. The recently proposed amendments were hardly without exception changes in a backward direction. They were entirely founded on French methods of medical teaching—not the French methods of the present day, but those of a quarter of a century ago. French methods differ so essentially from English ones that any medical regulations in this Province founded entirely or mainly on either one or the other must prove an injustice to one of the nationalities. In the recently proposed changes English methods were entirely ignored. The bill was evidently drawn up by men educated after French methods, and that some decades ago. The old system of lecturing was to be continued, laboratory work being practically considered not necessary by the would-be legislators. If there is to be a change in our medical curriculum it must be brought about by an incorporation of what both nationalities consider necessary, certainly not by a one-sided view of medical legislation—otherwise it will be necessary for the English-speaking profession to seek for a separate incorporation.

CIVIC HOSPITAL FOR INFECTIOUS DISEASES.

The following letter addressed to the City Clerk, of Montreal, by the Provincial Board of Health, touches upon a vital question,—who should be responsible for the care of cases of infectious disease. Hitherto, this burden has been imposed upon the general hospitals of the city, and to the best of their ability they have responded. But, as stated in the letter, this is a very heavy burden to lay upon any hospital not subsidized by the city, and consequently the work can only be done more or less imperfectly, owing to the very limited means at their disposal. We do not intend to open up and discuss the obligation of the city to care for infectious cases, cases which are a menace to public safety, and notification of which must, under penalty, be sent to the Civic Board of Health. The responsibility in the case of smallpox has been assumed by the city, so why not for the other diseases, diphtheria, scarlatina, etc., which we have always with us. However, the letter speaks for itself, and we trust the agitation will not be dropped until adequate provision is made for the reception, isolation and proper care of all cases of infectious disease :

MARCH 1, 1893.

SIR,—There are in the city of Montreal a large number of persons who, if suffering with a contagious disease, cannot, on account of special circumstances, be properly insolated or cared for in the houses where they fall sick. In this condition are those who live in hotels or boarding houses where they cannot be given all the care required by their illness without exposing to contagion other persons living with them ; those who are in service in public institutions or private families and who, when they are ill, become a burden and even a danger to the families where they cannot be treated and isolated as required ; and, lastly, those who, even in the bosom of their family, cannot be properly isolated and cared for without exposing the other members of the family and the public to contagion. Generally these persons go, some to the hospitals, and others, the largest number, to their own families where, most of the time, they take the germs of the disease, and establish new foci of contagion.

We have numerous examples of this mode of transmission of contagious diseases from the city to country districts and of its disastrous effects. As regards the hospitals, which have done all that was possible for them to do up to date to accommodate the public, the idea cannot be entertained of imposing upon them the obligation of receiving all these cases of contagious diseases. The treatment of those diseases does not come within the compasss of their organization, and they are not equipped for the purpose. It is all very well for the hospitals to have one or two special apartments for the isolation and treatment of the few cases of contagious diseases that may spring up at a given moment among the resident patients, but to exact from them, especially when they are in no way subsidized by the city, that they should place at the disposal of the public a hall for each of the contagious diseases that may occur would be to demand from them the expenditure of thousands of dollars for the construction of a whole department specially adapted for that purpose. The hospitals are not, therefore, in a position to perform these duties, which cannot reasonably be asked from them, and it rests with the city to furnish this accommodation to the public by placing a special hospital at their disposal. Besides, that is what is done in most of the other cities. The city of Montreal has already a hospital solely devoted to smallpox and which, consequently, has been constructed in a single building, instead of being built on the isolated pavilion system, as it should have been, had it been intended for the separate treatment of several contagious diseases. This hospital, which cost a large sum of money is now used only at rare intervals when a case of smallpox develops. However, there is still one way of improving the position, and that is to build an isolated pavilion for the treatment of the first cases of smallpox that may arise, and to utilize the present large hospital, making, of course, the necessary improvements, and receive and treat there, separately, cases of contagious diseases, such as diphtheria, croup, scarlet and typhoid fever. By this means serious inconveniences would be averted and the uneasiness that exists among the people would be allayed.

The city of Quebec has realized this by placing a hospital of this kind at the disposal of the public. The establishment of this hospital met the needs of the population, comparatively less numerous than here, so well that the public which, as a rule, has an instinctive horror for hospitals, soon became familiar with the thing, and its usefulness and necessity was so well understood that in a very short time, not only transient persons, the residents in hotels and boarding houses, and sick servants went there, but citizens of all classes took advantage of it for the isolation and special treatment of their sick children. It seems that what has been commenced in Quebec and what is done elsewhere with success in the public interest, Montreal, which has already so often given the example and taken the lead in matters of hygiene, might also do, for the need is still greater here than elsewhere, on account of the density of the population.

The Province of Quebec Board of Health submit these considerations to the serious attention of your Council, trusting that it will practically deal with them. Besides, judging from the excellent disposition manifested by His Worship the Mayor in his inaugural address, we have every reason to believe that Montreal will not allow this flaw in its sanitary organization to exist any longer, and that before long it will have its civic hospital for the treatment of all contagious diseases. I have the honour to be, sir, your obedient servant,

(Signed) ELZEAR PELLETIER,
Secretary, Province of Quebec Board of Health.

PUBLIC URINALS A NECESSITY.

A writer in the *Doctor's Weekly* estimates that not less than fifteen thousand dollars is spent daily in the saloons and taverns of New York by persons who, but for the privilege of using the urinals, would not enter such places. The mere fact that such an amount of money is daily thrown away, nay worse, spent upon something which is absolutely harmful, should make health boards think and temperance societies get up in arms.

What is true of New York is true of all other large cities. For instance Montreal, with a population of about one-tenth

that of New York, is paying some fifteen hundred dollars daily for the privilege of relieving a full bladder. The only reasons ever given for not having public urinals are: firstly, the æsthetic one that such places do not look pretty, and secondly, the question of expense. In view of the pressing demand the first reason is not very weighty, and might be overcome by putting them in secluded places with a finger-post to direct applicants for relief. The second reason fades into nothingness before the figures given.

The *lavatory* attached to the ordinary saloon is usually in bad sanitary condition, and thus another reason why public urinals should be provided is added to the list.

In many shops we find toilet rooms for ladies, but the male population must either go into a saloon or else run the risk of arrest for committing a nuisance in a quiet corner. Again, the mere knowledge that a harbour of refuge is at hand if required would be a comfort to many a good citizen, although he may not actually require it.

The consideration of this question we commend to our Board of Health as a measure conducive to health and morals, and to our Total Abstinence Societies as a means of preventing indulgence in intoxicating liquids. We hope that too much time will not be spent in considering the question, but that some action may also be taken.

NEW BY-LAWS, PAN-AMERICAN MEDICAL CONGRESS.

LANGUAGES.

By Law IX.—Papers may be read in any language providing that authors of the same shall furnish the Secretary-General with an abstract not exceeding six hundred words in length in either of the official languages (English, Spanish, French, or Portuguese) by not later than July 10th, 1893: and providing further, that a copy of each such paper shall be furnished in either of the official languages, at or before the time of the meeting, to the Secretary of the Section before which the same shall be read. Remarks upon papers may be made in any language providing that members making such remarks shall furnish a copy of the same, in either of the official languages, before the adjournment of the session.

PUBLICATION.

By-Law X.—All papers read either in full or by title, shall be immediately submitted for publication in the Transactions (Special Regulation 3), but authors may retain copies and pub-

lish the same at their pleasure after the adjournment of the Congress.

CONSTITUENT ORGANIZATIONS.

By-Law XI.—All medical, dental, and pharmaceutical organizations, the titles of which have been transmitted with approval to the Committee on Organization, or which may hereafter be transmitted with approval to the Executive Committee by any member of the International Executive Committee, each for his own country, shall be subject to election by the Executive Committee, approved by the President, as constituent bodies of the First Pan-American Medical Congress, and each organization thus constituted shall have the right to designate as delegates all of its members attending the Congress, but no such organization shall meet at the time and place of meeting of the Congress as a distinct body; providing, that the secretary of each such constituent body shall furnish a list of officers and a statement of the number of members of his respective organization to the Secretary-General not later than sixty (60) days before the meeting of the Congress, and shall forward a list of delegates chosen, to reach the Secretary-General before the opening of the Congress.

PAN-AMERICAN CONGRESS BULLETIN.

SECTION ON MEDICAL PEDAGOGICS.

The Pedagogic Section will devote its attention especially to the History of the Development of Medical Education in America.

In the papers presented by leading teachers recent advances in methods of instruction will be considered.

The *art of teaching*, which is regarded as a study of great interest in other branches of learning, has received hitherto but little attention from the medical profession.

The Section in Medical Pedagogics will therefore be made a prominent feature of the Congress, and it is hoped that those interested in medical education will co-operate in the work of this section, by being present and by actively engaging in the discussion of subjects presented.

Any inquiries or communications may be made through the Secretaries undersigned.

J. COLLINS WARREN, M. D.,
Executive President, Boston, Mass.
CHARLES L. SCUDDER, M. D.,
English-speaking Sec'y, Boston, Mass.
WM. F. HUTCHINSON, M. D.,
Spanish-speaking Sec'y, Providence, R. I.