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The Canada Lancet

VOL. L. TORONTO, SEPTEMBER, 1916 No. 1

EDITORIAL

VOLUME FIFTY, CANADA LANCET.

For fifty years *The Canada Lancet* has been regularly issued and made its regular visits to the doctors' offices of Canada, Great Britain, other British Dominions, and the United States. Its name and place of publication has never been changed; and, though it has had several changes of editorship, its objects—the upholding of the highest standards of medical education and ethics—have ever been steadily maintained.

It was founded fifty years ago by the late Dr. John Fulton, who was for many years an esteemed teacher and an able practitioner. Following his death it was edited for a time by Drs. Charles Sheard, J. L. Davison, G. P. Sylvester, and H. B. Anderson. The present editor has discharged the duties of the office for thirteea years.

Half a century of publication is long enough to justify a journal in ranking itself with the old publications. But age does not weary *The Canada Lancet*, nor make it less able to keep up the race after the ideal it has set for itself. Nay, rather, it feels that its youth is still with it, and finds new duties and new problems to be faced. Like Antæus of old as it strikes the ground it receives new vigor, and arises strengthened to put forth new efforts. It will be the aim of *The Canada Lancet* to serve its readers even more efficiently in the future than in the past; for it feels that

They must onward still, and upward,
Who would keep abreast with Truth.

INFANTILE PARALYSIS.

It is now about twenty years since Dr. Thomas Buzzard, of London, England, ably argued the position that anterio-poliomyelitis is an acute

infection. He did not at that time advance the view that it was a communicable infection. We now know that it is, though the organism has not yet been isolated. It is a disease of the hot months. It is always present, at some place or other, in the sporadic form. At intervals of varying duration it becomes epidemic.

Within the past two months the lay press has devoted a good deal of space and attention to the epidemic that began in New York and spread to many other points in the United States. When the lay press takes a hand in the discussion of a medical question there is certain to be a good deal of exaggeration and misrepresentation of the real conditions. This is not intentional, but unavoidable.

An ordinary epidemic of whooping cough, measles, diphtheria or scarlet fever will cause much more sickness and occasion more deaths than an epidemic of anterio-poliomyelitis; but these others are comparably common, and the public have come to regard them as, like the poor, something we must always have with us. The constant stream of funerals resulting from tuberculosis attract almost no attention, and yet about 12,000 die of this disease in Canada every year.

But anterio-poliomyelitis is, nevertheless, a serious disease. The mortality in the early part of an epidemic is always high, and the fate of those who do not die, is almost always a sad one. It is, therefore, incumbent upon all to do their utmost to arrest the spread of the disease. There can be little doubt but that it is spread in some way from the sick to the well. But very careful study does not show that it often attacks more than one in a family. To this, however, there are rare exceptions, and two or three in a family have suffered. There is much yet to learn as to its mode of spread, and no sure rules can be laid down until the germ has been discovered, and its life history studied.

But there are a few things that can and should be done. In the first place, the physician should be on the alert for the detection of the disease, and to insist on immediate separation of the sick from the well. There should be a rigid quarantine of the premises for sufficient time as to arrest the spread of infection. The public should be willing to co-operate with the profession in these efforts. Finally, the authorities should aid in every way; and, where necessary, give financial aid to make the quarantine effective, but not oppressive.

"An ounce of prevention is better than a pound of cure" says the old adage. Let everyone be wise and rise to the occasion. There is need for a well thought out plan of action. We congratulate the Ontario Board of Health on the helpful circular is published.

THE MEDICAL COUNCIL OF CANADA.

The Canada Lancet urged for many years the formation of a Medical Council that would be truly representative of the entire country. During these years we advised the various Provinces to drop all local jealousies and loyally to support the movement for a national Council. Through the great and persistent efforts of Sir T. G. Roddick all difficulties were finally overcome, and the Canada Medical Act came into force.

We have before us the fourth annual report of the Council. It is one we may feel proud of. It gives much useful information, such as the officers of the Council, its members, the various committees, the board of examiners, the president's address, the registrar's report, the financial statement, a synopsis of the Act, rules for candidates, the fees, copies of examination papers, and the list of those now registered. This latter now contains over three hundred names, and is steadily growing. We hope the time is fast approaching when all will feel that their names should be on the national medical register.

Never was the truth of *e pluribus unum* better manifested than in the formation of the Canada Medical Council. Each Province yielded something that a new condition might become possible.

Outworn ideals are fading fast away,
And new influences shape its trend to-day.

THE CANADIAN MEDICAL ASSOCIATION.

The annual meetings of 1915 and 1916 have not been held, and the official journal of the association rightly regards this as one of the causes for a loss in income. It has been decided to hold a meeting in 1917.

During the year 1914 the association, on account of the Journal, had a deficit of \$707.73. In 1915 there was a small credit balance of \$32.82. But during 1915 the salary of the secretary-treasurer was discontinued. The amount paid in 1914 was \$1,083.33. In 1914 \$100 was paid for travelling expenses, and an audit fee of \$50. In 1915 nothing was paid for travelling expenses and the audit fee was reduced to \$20. The editorial allowance was cut down by \$523.35. This means a total reduction in the expenses of 1915, as compared with 1914, of \$1,736.68. Had this expense continued, the small surplus of \$32.82 would have become a deficit of \$1,703.86.

The journal of the association, in its editorial on the situation,

very properly remarks: "No credit can be claimed by the association for the existence of a small balance at the end of 1915. An important body like the Canadian Medical Association should be able to pay its officers adequate salaries, and it is apparent that this cannot be done under existing conditions."

But the association is, after all, only made up of its members. If there are not a sufficient number of members and a large enough income from advertising, there is only one of two alternatives, namely, to go behind from year to year, or to secure private donations to make good the deficits. We take it that the editorial management does not regard it as feasible that the officers should be asked to serve without pay.

The association journal very truly points out the disturbing influences of the war. Many of the members of the association have enlisted. To this it adds the effects of not holding the annual meetings of 1915 and 1916. But the indications are that the war will not soon be over. If one can form any estimate of the duration of the war from the speeches of those concerned with its conduct, and from the comments of the journals likely to have reliable information, it is safe to say that it will last one year yet, and, perhaps, two years. This will certainly disturb things for another year, and perpetuate the conditions the association journal refers to as having so adversely affected the journal's income during the past two years.

THE ONTARIO MEDICAL COUNCIL.

The annual meeting of this year was an important one. We congratulate Dr. E. E. King on his election to the office of president. The honor has been well and worthily won, and the duties of the office will be well and worthily performed.

The Council acted wisely in deciding to furnish the members of the profession with the clause of section 51 of the Ontario Temperance Act. This section places certain responsibilities upon the medical profession in the carrying out of the Act. It will be best for the members of the profession to support the Act as it now stands, though we do not believe that it is in the best form. We believe that this section will require some important amendment before it reaches its final form; and this especially so if prohibition should be come permanent.

The Council further took a proper stand in declaring that there is no need for licensed midwives in Ontario. The condition of parturient women is much safer and better as things are, than it would be were there licensed midwives. The greatest curse that can come to any

people is the existence of partially educated persons with the privilege of giving professional attendance on the sick or injured. This applies to midwifery as a sub-branch of the practice of medicine, as much as it does to the various ilks of osteopathy, optometry and chiropraxy.

It is also a move in the right direction to adopt a system of uniform matriculation standards. This cannot be accomplished too soon. It would remove much hardship from students and would make for a higher and better state of medical education.

With the recommendation that the fifth year of the medical course shall be wholly and exclusively academic, we are in thorough accord. This is one of the most important years in the course, and should be carried on under the strict supervision and direction of those most competent to give guidance and assistance to the final year students.

We congratulate the Council in having granted students the privilege of going up for the final examinations in the fall, and having the summer session accepted as sufficient attendance. This, of course, is to meet the unusual conditions arising out of the war, and to enable a number of medical men to secure their licenses and return to duty at the battlefield.

OUR MILITARY HOSPITALS.

Since the Military Hospitals Commission took up its work a year ago there have sprung into being all over Canada some 22 military convalescent hospitals. Of these Toronto has the best equipped hospital in Canada, and many of the cases from other divisions will be brought here for treatment, as the apparatus in the Central Hospital, on College St., Toronto, will not be duplicated in Canada. The hospitals, with the number they can accommodate, are: Ross Military Convalescent Hospital, Sydney, N.S., accommodation for 45; Parks Military Convalescent Hospital, St. John, N.B., accommodation 35; Beauvoir Manor Military Convalescent Hospital, Quebec, Cavard, Quebec, 150; Khaki League, Belmont Park, Montreal, accommodation 44; St. George's Annex, Montreal, 35; Khaki Home, Montreal; Grey Nuns' Hospital, Montreal, accommodation 125; Sir Sandford Fleming Hospital, Ottawa, accommodation 72; Elmhurst Hospital, Kingston, accommodation 50; Richardson, Kingston, accommodation 35; Longwood, Toronto, accommodation 25; Central, Toronto, accommodation 130; Spadina, Toronto, 250; Victoria, Hamilton, 35; Belvidere, London, 35; Central, London, 130; Keefer, Port Arthur, 25; Winnipeg, Deer Lodge Hotel, 130; St. Chads, Regina, 70; Ogden, Calgary, 140; Esquimalt, Victoria, B.C., 100.

ORIGINAL CONTRIBUTIONS

THE DUODENAL TUBE: A VALUABLE DIAGNOSTIC AND THERAPEUTIC AGENT.*

BY E. E. CLEAVER, M.D., NEW YORK.

IN 1889, Boas¹ published a paper in which he said he had succeeded in introducing the stomach tube into the fasting stomach and, by gentle massage of the liver, obtained a fluid which was regurgitated from the duodenum and gave the reactions of pancreatic ferments. While it is possible in rare instances to bring about such regurgitation in a fasting condition of the stomach, it is naturally not a procedure which can be done in a routine way.

A few years later a Russian physician, Boldyreff², obtained through gastric fistulae, when animals were given oil or fat, a fluid regurgitated from the duodenum, and suggested making use of this phenomenon for chemical purposes.

In 1897, Hemmeter³ described a method by which he thought he could introduce instruments into the duodenum. Einhorn later tested the motor function of the stomach and intestines. For this purpose he employed meat, catgut and potato, attached to little beads. Later he devised the bucket. He also devised a thin catheter, by which he obtained duodenal fluid.

In December, 1909, Einhorn, while experimenting with his pyloric dilator, in the case of a physician, with duodenal ulcer, found his patient experiencing very little distress from the presence of the tube and determined to try duodenal feeding. The tube remained in the duodenum for ten days. The patient lost a few pounds in weight, but appeared to be relieved of his symptoms and maintained his body nutrition.

In the early part of the next year, Einhorn⁴ successfully treated three cases of duodenal ulcer by the tube treatment. In January of the same year, Gross⁵ devised a tube for duodenal feeding. Since that time he has successfully used it in a great many cases.

Originally the tube was devised for the therapeutic treatment of gastric and duodenal ulcer, but it was found that the tube had a much wider scope as a diagnostic agent.

Chace⁶, while working in the field of bacteriology, found that an absence of pancreatic enzymes from the duodenal secretions would appear to be strong evidence of either pancreatitis or non-patency of the pancreatic ducts, while lack of bile would appear to afford similar

*Read at the meeting of the Ontario Medical Association.

evidence of occlusion of the common bile duct. Crohn⁷, in direct examination of the duodenal contents, found the duodenal tube a distinct help in the diagnosis of gall bladder and pancreatic conditions.

Einhorn⁸, in experimenting with six cases of cirrhosis of the liver, found duodenal alimentation of therapeutic value, probably due to the fact that the upper part of the digestive tract is kept at rest. Venous circulation is not very active, and consequently a marked diminution of the size of the liver resulted.

We have lately used the duodenal tube as a diagnostic agent in the case of a patient with intense jaundice existing for two months. Physical examination, gastric analysis and examination of stool for occult blood were all negative. Patient, fasting, passed the duodenal tube. Two hours later, duodenal contents aspirated. Examination of contents showed the presence of pancreatic ferments, but no bile. A diagnosis was made of non-obstructive jaundice, which disappeared within two weeks.

In another case with the clinical picture of duodenal ulcer we were unable to confirm our diagnosis by the test meal, thread test and examination of the stool. The duodenal tube was given, but we were unable to pass the pylorus, even after giving large doses of morphine and belladonna. Later we determined to pass the tube into the stomach, eight ounces of milk being given at the same time. Examination of stomach contents every half hour showed a marked increase in the free HCL and total acidity, but it was not until the expiration of two hours that we were able to get a positive blood test and regurgitated bile. Operation was performed; a constricted pylorus found; and a marked duodenal ulcer, about the size of a twenty-five-cent piece, just beyond the pylorus.

We have also used the tube in cases of very marked distension of both the large and small bowel with gas. The patient swallows the tube. One hour later a salt solution $1\frac{1}{2}$ times the strength of normal saline, in quantity 32 ounces, is allowed to flow slowly into the small intestine. About one hour later the patient has two to three large evacuations of the bowel, with consequent relief of symptoms for several days to a week.

Kellogg has successfully used the tube in cases of auto-intoxication. He has found in cases of high blood pressure myocarditis a distinct benefit from the use of trans-duodenal lavage. These are cases that have failed to react to ordinary treatment. His method is to use one heaping teaspoonful of salt to 16 ounces of water. The advantage of using a stronger solution than normal saline is to prevent endosmosis and stimulate peristalsis. Treatment is usually given once a week and continued until symptoms are relieved.

Kellogg has also introduced oxygen through the duodenal tube in cases of infection with the bacillus aerogenes capsulatus. This anaerobic organism seems to be distinctly held under control, with consequent relief of symptoms. He has also used the tube to introduce the bacillus bulgaricus directly into the duodenum, believing that many active organisms are destroyed by the gastric juice.

There are four duodenal tubes at present in use:

- (1) Gross.
- (2) Pafelski.
- (3) Einhorn.
- (4) Einhorn Modified.

The Gross tube is made of pure gum rubber, No. 20 French; weight 106gm.

Principle and Mode of Introduction.—The principle consists in introducing a soft rubber tube, weighted by a little metal ball, which the patient is to swallow. By placing the patient on his right side, the small ball, together with the tube to which it is attached, will be dragged closely to the pylorus. Arrived there, the little ball is subject to the propulsive mechanism of the pars pylorica, under the influence of which it will rapidly pass beyond the pyloric ring. Owing to the position of the patient, lying on his right side, the pyloric part of the stomach is better filled with the contents of the stomach and becomes what may be described as “unfolded,” thereby allowing the small ball, from the first, undisturbed access to the pylorus. It requires from 2 to 4 hours for the tube to pass.

The Pafelski tube more closely resembles the Einhorn tube. It is a No. 8 French pure rubber tube. Attached to one end is a perforated gold-plated lead ball, weighing 105 gm. The tube is marked off at 40, 50, 60 and 70 cm.

The Einhorn original tube was 1/16 inch in diameter, about 50 inches in length, having a weighted ball of 48 gm., and marked off at arbitrary points. The fluid was forced through the tube by means of a glass syringe.

The duodenal tube we use is merely a modification of the Einhorn tube. We are careful to select a pure gum rubber tube, 50 inches in length, 1/16 of an inch in calibre, and marked off at various points—20, 30 and 40 inches. At the end of the tube are placed two small BB shot that serve the same purpose as the weighted ball in the Einhorn tube. Five or six small openings are burned close to the end of the tube. A glass receptacle is attached to the end and is connected with a rubber tube, followed by a small glass bulb. Another piece of rubber tubing, with a small eye dropper attached, serves to connect the larger tube with the smaller duodenal tube. A small screw clamp serves to

regulate the flow. We thus employ the gravimetric method; the weight of the column of fluid is sufficient to assure a free flow of fluid from the tube.

When we have made our diagnosis of gastric or duodenal ulcer we prepare the patient for treatment. The day before taking the tube patient remains on a fluid diet, and just before the tube is given we prefer to wash out the stomach. At bedtime patient swallows the tube, sitting in an erect posture. He experiences some difficulty in allowing the tube to pass through the pharynx and esophagus into the stomach. It causes some distress, but this very quickly disappears. We pass the tube to the twenty inch mark and then instruct patient to lie on the right side for two hours. In the morning we aspirate and test for duodenal fluid. Reaction to litmus paper should be alkaline or neutral. We give patient six ounces of milk by mouth, aspirate, and if the milk returns, the tube is positively still in the stomach. The quantity of duodenal secretion is generally very much less than the gastric secretion. We may confirm the presence of the tube in the duodenum by radiographic examination.

We are now in a position to commence our duodenal feeding. We place one ounce of sterile water, body temperature, in the glass receptacle, and allow it to flow slowly through the tube, followed immediately by six ounces of raw milk. Regulation of the flow of fluid may be arranged, by the Murphy drip, from 180 to 200 drops a minute. In this way the taking of milk requires from 15 to 20 minutes. After the milk has passed out of the tube follow immediately by one ounce of water, so that the tube is thoroughly cleansed. Our rule is to repeat this feeding every two hours, from six in the morning until ten at night, omitting one feeding in the afternoon; total, 8 feedings in 24 hours. It is unwise to start with more than six ounces to a feeding; otherwise patient will complain of a feeling of distress, due to distension of the duodenum. If the patient is able to take the feedings without distress, we rapidly increase the feedings to 9-10 ounces, adding one teaspoonful of milk sugar to each feeding. At the end of four days we use one-half to one ounce of cream, nine to ten ounces of milk and one tablespoonful of milk sugar—a total of over 1,900 calories, which seems to be quite sufficient to maintain the strength and body nutrition of the patient.

We continue the treatment for three weeks. Patient is kept in bed during the first two weeks. Hot application to epigastrium (if there has been no recent haemorrhage). A simple enema given daily. Very few patients complain of any distress or annoyance from the tube after the first 24 hours. The tube is not an irritant, and the patient soon learns to adjust the position of the tube so it will be most comfortable.

In the selection of our cases for the tube it is of equal value either in duodenal or gastric ulcer or in any condition of the stomach in which we wish to place that organ at rest. In case of ulcer with recent haemorrhage it should not be employed within two weeks. It is not of value in chronic indurated ulcers. It may be of some temporary benefit, but the ulcer recurs frequently and surgical interference is finally necessary.

We present the following typical cases:

Case 1. Mrs. C., age 42; married; previous history—scarlet fever at 8 years, followed by acute rheumatism; typhoid fever at 14; thrombosis of left leg, walked with difficulty after three years; at 39 double salpingo oophorectomy; during the last ten years suffered with stomach; belching of gas when stomach was empty; pyrosis; pain $1\frac{1}{2}$ to 2 hours after eating, radiating from epigastric to mid-dorsal region; pain was relieved by taking buttermilk; always suffered with large superficial ulcers of the mouth. In February, 1915, had a severe gastric haemorrhage on board ship while crossing from Honolulu to Japan. Stools were jet black in color for several days; a few days later felt very much better; less distress in stomach, very little pain. In May of the same year, on physical examination, stomach was found in normal position, some tenderness on deep pressure at pylorus; no palpable tumor; gas in the fundus; examination of abdomen otherwise negative. Gastric analysis HCL 74, total acidity 92; blood absent, Guaicum test; examination of stool for occult blood negative; two negative thread tests. *Roentgenographic examination*—stomach, tonic defect near lesser curvature, about 2 cm. from the pylorus; gastric ulcer near the pylorus.

Put on duodenal feeding of cream, milk and milk sugar for 21 days. Experienced some distress during the first 36 hours in the neighborhood of duodenum. Controlled by an alkaline powder of bicarbonate of soda, bismuth subcarbonate and magnesium oxide. Weight before treatment 122 pounds. At the end of three weeks weight 119 pounds. Placed on Von Luebe diet for three weeks longer. Analysis of stomach contents on July 1st—free HCL 25, total acidity 75, blood negative.

On February 15th, 1916, gastric analysis showed free HCL 34, total acidity 66; blood negative; patient very much better; practically no pain or distress from stomach; was able to take a general diet.

Case 2. Miss C. Age 25; occupation, stenographer; previous history negative. Came into my office in June, 1914. During the last three years complained of pain in epigastrium from 1 to $1\frac{1}{2}$ hours after eating; no belching of gas; regurgitation of sour mouthfuls; no vomiting; constipation marked. Physical examination—poorly nourished girl; weight 87 pounds; general tenderness over epigastrium, but no localized point of tenderness. Caecum and colon distended with gas; gastric analysis—

free HCL 50, total acidity 74; blood positive, Guaicum test. Examination of stool for occult blood negative. First thread test positive 19 inches; second thread test positive 19½ inches. Radiographic examination—ulcer on lesser curvature near pylorus. Put on duodenal feeding for three weeks; much improved; no pain; rest and selected diet for three weeks longer; weight 91 pounds; thread test negative. Has been almost entirely free from gastric symptoms since that time.

On January 3rd, 1916—test meal, free HCL 25, total acidity 65; blood negative; thread test negative. Present weight, 100 pounds.

Case 3. Miss G. Age 25; occupation, teacher. Previous history negative except for history of trouble with stomach during last three years. Present illness—pain two to three hours after eating, commencing at umbilicus and radiating to mid-dorsal region. Pain very severe during last three months; unable to eat solid food; belching of gas almost constantly; pyrosis; no vomiting. Gastric analysis—HCL 55; total acidity 96; blood present; first thread test positive 20½ inches; second thread test positive 20 inches. Physical examination—single point of tenderness in region of pylorus; both small and large intestines distended with gas.

Pain relieved within twenty-four hours after passing tube. Tube treatment for 16 days. Ulcer diet three weeks longer. Steady improvement and gained in weight. August, 1915—gastric analysis—free HCL 30; total acidity, 66; blood negative; thread test negative.

Kellogg has used duodenal alimentation in over 200 cases of gastric and duodenal ulcer. His conclusions are that about 10 per cent. of apparently medical ulcers are not improved by the tube. His method of feeding is to use milk, peptonized for 15 minutes, during the first few days. Later he gives yolks and whites of eggs, four to six in twenty-four hours, six ounces of milk and two ounces of milk sugar—2,500 to 3,000 calories per day.

In a series of thirty cases of gastric and duodenal ulcer, treated by the duodenal tube, we have found the following results:

The strength and body nutrition of the patient is better maintained than by the older methods of treatment.

The average loss of weight has been four pounds.

Three cases gained three, five and seven pounds respectively.

We were able to give the average patient 1,800 to 2,000 calories per day.

Twenty-five cases were distinctly benefited by treatment.

Five cases were not improved, and two of these cases proved to be distinctly surgical ulcers.

The series reported has extended over a period of four years.

Three cases have had relapse with return of symptoms.

Twenty-two cases have, up to the present time, had no return of symptoms and are apparently cured.

In conclusion, we may state that the duodenal tube seems to be of distinct value, both as a therapeutic and as a diagnostic agent.

I wish to thank Dr. Hayes and Dr. Kellogg of the New York Polyclinic for the opportunity they have given me to study the cases here reported.

1. *Journal of Medical Sciences*, February, 1916.
2. *Journal of Medical Sciences*, February, 1916.
3. *Einhorn, Medical Record*, July 16, 1910.
4. *Einhorn, Medical Record*, July 16, 1910.
5. *Gross, N. Y. Medical Journal*, January 8, 1910.
6. *Chace, Archives of Internal Medicine*, December, 1913.
7. *Crohn, Journal of A. M. A.*, February 13, 1915.
8. *Einhorn, Medical Record*, July 26, 1913.
9. *Gross, N. Y. Medical Journal*, July 9, 1910.
10. *Pafelski, N. Y. Medical Journal*, October 8, 1913.

THE SIGNIFICANCE OF PAIN IN THE DIAGNOSIS OF ABDOMINAL AND PELVIC DISEASES.*

BY DR. S. M. HAY,

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PAIN is perhaps the most prominent symptom of disease in the abdominal and pelvic cavities. It is frequently the first symptom that impels the patient to seek medical advice. It is therefore the starting point for all our diagnostic train of reasoning, and we must be careful to place a correct interpretation upon it or we may go astray before we are nicely started. Indeed there seems to be a great deficiency in our ability to make full and correct use of the information conveyed by the manifestations of pain.

The patient may deceive us on the subjective symptoms, but is not so likely to do so on the objective ones. For this reason the objective symptoms, which are apparent to the senses of the examiner, are especially valuable for diagnostic purposes. However, these objective evi-

*Read at the meeting of the Ontario Medical Association.

dences of disease often do not appear until the malady has reached a certain degree of development, while pain is frequently present from its very inception.

First we should determine the exact location of the pain. In order to do this it should be made a rule always to have the patient point out the exact spot, or region, in which the pain is felt. If possible, have her place the tip of one finger on the most painful spot. Have her tell you whether it is superficial or deep-seated. Get all the information you can from your patient and then proceed to correct or confirm her statements. Such vague statements as "pain in stomach," "pain in the bowels," or "pain in the liver," are of very little value and are frequently misleading. When a patient complains of pain being radiating in character we must differentiate between the painful focus and its peripheral radiations. The focus will generally be where the pain was felt at the beginning of the attack.

Pain must be differentiated from *tenderness*. Pain is a subjective sensation, not requiring any interference by the examiner in order to elicit it. Tenderness requires pressure, as of the examiner's hand, before it can be determined.

Abdomino-pelvic pain may be one of three kinds: it is either *continuous*, *intermittent*, or a *combination* of the two—a continuous pain with intermittent exacerbations.

In the abdominal and pelvic cavities *intermittent* pain indicates either neuralgia or some obstruction to the free flow of the contents of one of the four great tubular systems: the urinary, biliary, faecal, or, in women, the genital series. This intermittent obstructive pain is always dependent upon the peristaltic contractions of one or other of these tubes.

A neuralgic pain is referred to the abdominal skin. A slight touch is almost as effective as deep pressure for the purpose of intensifying it; in fact firm pressure will sometimes, but not always, relieve it. Neuralgic pain is most marked in, and usually confined to, the course of the abdominal nerves themselves. It can always be elicited by pressure over certain defined points, for example: the points at which the anterior, lateral and posterior branches pierce the deep fascia; these points are well known and distinct. The intermittent pain of neuralgia is sharp and darting in character. It is increased by cold, insufficient feeding or anything which lowers the vitality.

Visceral pain is intensified in proportion to the pressure exerted, and a slight touch does not produce it. It is not confined to the nerve lines, and is mainly found in front, and usually comes on entirely independently of any action on the part of the examiner. Intussusception, which we will consider later, is a notable exception to the rule. Visceral

intermittent pain is paroxysmal, wave-like, gradually becoming more and more intense and then dying away. It is increased by any stimulus to peristalsis of the tube affected.

It might be well to remember just here that the ordinary normal contractions of unstriated muscle, as in the four tubular systems mentioned above, are painless, they are not perceived. But the forcible contractions of unstriated muscle are almost unendurable; they cause the most severe pain that human beings can experience. All the colics—renal, hepatic, intestinal, etc.—are pathological examples of this fact; parturition is a physiological analogue.

The most usual stimuli to forcible contractions are the presence of a foreign body plus inflammation, or rapidly increased tension. An excess of carbonic acid, such as accumulates in the blood during sleep, is a predisposing cause of active contraction in unstriated muscle; hence the frequency with which colic awakens the patient in the early hours of the morning, when sleep is deepest. Exhaustion of the muscle walls follows this prolonged and intense effort, and thus relief for a time, from the severe pain results, even though the cause be not removed. After the muscle is rested the pain returns. As familiar instances of this we may mention the urinary bladder, the gall bladder, the intestine, the ureter, the bile-ducts, the pregnant uterus and the pregnant tube in ectopic gestation.

All the hollow viscera react in a similar manner to stimuli. If the obstacle to be overcome is a partial obstruction, the walls thicken from hypertrophy and at the same time their cavities diminish. If the obstacle proves invincible, that is if the obstruction be complete, then the muscular walls cease to contract, the violent pain subsides, paresis of the muscular coat occurs, and this is followed by passive distension of the viscus and degeneration of the unstriated muscle. Painless urinary distension with overflow is explained in this way, as is hydrops of the gall bladder distended by its own secretion, and also the large gall bladder dependent on a complete and chronic obstruction of the common duct. Other examples might be mentioned.

Mode of Onset. We should note carefully the way the pain starts. In some forms of disease the commencement of pain, whether continuous or not, is sudden. We have an example of this in acute intussusception—the child may appear perfectly well at one moment, the next moment it may be screaming with pain, very sudden and very intense. In all the perforations and ruptures of internal organs the pain is sudden and severe. Also frequently in volvulus and in the twisting of a pedicle and sometimes in strangulated hernia and in the colics.

In other cases the pain comes on gradually as in cases of cancer, ectopic pregnancy before rupture, gastric or duodenal ulcer, catarrhal

appendicitis and many other conditions. Acute sudden pain means a sudden impression upon healthy nerves: for example, the impaction of a calculus in an otherwise healthy ureter or bile duct. Gradual pain is due to a slow, insidious change in the tissues, the nerves being affected very gradually, as in the case of new growths. Inflammatory changes cause continuous pain, coming on slowly.

Locality of Pain. The locality of pain very often helps us to a diagnosis. The pain of appendicitis, at first in the region of the umbilicus or widely distributed over the abdomen, and later on localized at McBurney's point, is familiar to us all. This peculiarity is explained by the fact that the nerves supplying the appendix come from the superior mesenteric plexus of the sympathetic. As soon as the inflammation has extended beyond the appendix the pain becomes localized, on account of the other nerves affected. Gall bladder pain or tenderness will be found at a point about one inch above and to the right of the umbilicus. And so on in other conditions. Occasionally pain is found on the opposite side from where the disease is; such cases are mere surgical curiosities and we do not know the cause, although the reason will doubtless yet be discovered. In nearly all visceral pain, irrespective of its actual point of origin, it is at first located by the patient over the solar plexus; that is an area bounded by the ensiform cartilage and a point an inch below the umbilicus in one direction, and by the outer borders of the recti muscles in the other. In twenty-four to forty-eight hours such pain will probably have localized itself over the affected organ.

Pain and Tenderness. These may be combined and then are of great diagnostic value. By keeping this in mind we are enabled to distinguish ordinary colic or lead colic, in which there is severe pain, but no tenderness, from peritonitis or appendicitis, in which both tenderness and pain are present. In this way we also distinguish between gallstone colic or urinary colic, with their recurring paroxysms of pain without tenderness, from empyema of the gall bladder or perinephritic abscess, in which both pain and tenderness are easily demonstrated. Have we not all come to the bedside and been in doubt as to whether we had a case of calculus in the right ureter or an appendicitis? If we remember that we have tenderness only in the case of calculus, and pain and tenderness both in appendicitis, we have at least gone a long way towards making a diagnosis. Of course, apart from other symptoms, it will not justify a positive diagnosis.

Pain and Rigidity. This combination is important. It is well to remember that we do not get rigidity over an inflamed viscus until its peritoneal surface becomes involved. A gastric ulcer may cause pain, but not rigidity until the ulcer has extended far enough to affect the

peritoneal coat of the stomach. Catarrhal appendicitis will cause pain but no rigidity until the peritoneal surface of the appendix becomes inflamed. In appendicitis the pain, tenderness and rigidity remain localized until a leak occurs either through a small perforation, or through the damaged wall of a gangrenous spot. Then the distant peritoneum is involved and we have pain, rigidity and tenderness appearing also on the left side of the abdomen. This rigidity passes away when distension begins, which indicates septic paresis of the intestine.

The time at which pain occurs, or its relationship in time to certain other functions, will often assist us in diagnosis.

Pain just after micturition suggests cystitis or stone in the bladder, or perhaps stone in the ureter near the bladder. Pain during micturition would indicate urethritis, perhaps of gonorrhoeal origin.

Pain before defecation might indicate ulceration in the rectum, acute prostatitis, or metritis. Pain during and after defecation means fissure in ano.

Pain before menstruation would indicate ovaritis or salpingitis; pain during menstruation would perhaps be from some obstruction, or spasm in the uterine canal.

Pain immediately after eating would suggest ulceration of the stomach; pain two to four hours after eating might mean ulceration of the duodenum.

The Character of Pain. The character of pain is at times very helpful in arriving at a diagnosis. Bishop has said in this regard that an intense, sudden, tearing, rending pain, often severe enough to produce collapse, and usually associated with sharp vomiting, is common to a comparatively small class of cases. These are: rupture of an ectopic pregnancy, rupture of a pyosalpinx, rupture of an appendical abscess, where it ruptures into the general peritoneal cavity; rupture of a gastric ulcer, rupture of a duodenal ulcer, rupture of a gall bladder. It is well to observe these are all ruptures of important organs, throwing an irritating fluid into a healthy peritoneal cavity. These are all excruciatingly painful conditions. In ascites we do not get this awful pain, although the peritoneal cavity may be filled to its capacity. Why? Because the fluid is non-irritating. Again, we may have a large quantity of pus in the peritoneal cavity in tuberculous peritonitis, and none of these symptoms appear, because the peritoneum is unhealthy when the pus came into contact with it.

In rupture of ectopic pregnancy there is usually previous good health, except for occasional intermittent pain. This is the only case in which rupture comes as a thunderbolt out of a clear sky. In the other

five conditions the patient will have a history of previous poor health, of pain, of sickness, of distress, extending over a period of days or perhaps weeks.

Intussusception. In regard to this condition Stanmore Bishop says: "A very curious and almost distinctive pain is seen in acute intussusception. In such cases, which usually occur in children, you will hear from the mother that the child has had attacks of intense pain, and she will emphasize this very greatly. But at the time you see it, it will probably be fast asleep, evidently in no pain at all, and it naturally occurs to you that the mother is exaggerating and that there is nothing more the matter than slight gastralgia. If in such a case you uncover the abdomen and place your *warm* hand upon it, moving it gently in various directions, at first the child will make no objection. You may or may not feel any mass at first; but your gentle friction will excite peristaltic action, and the child begins to cry. If you maintain your hand there the crying becomes greater; the pain suffered is evidently more and more intense, until it reaches its acme, and then it gradually dies away again. It is wave-like. During the paroxysm of pain a mass may, for the first time, become palpable. If you have previously detected it, it becomes steadily harder and more defined as the pain increases. As the pain dies away so does the sensation of a lump become fainter and more elusive. It is always at the acme of pain that any intussusception is most likely to be detected; and this because both pain and mass are produced by the same cause, increased peristalsis."

The Position of the Patient. The position the patient assumes in sudden severe pain is at times of considerable diagnostic value. In most cases of rupture mentioned above, and particularly in perforation of the stomach, the patient generally assumes some fixed posture—usually bent forward. This fixed position of the patient is in striking contrast to the flopping around the bed of the one suffering from an attack of renal or hepatic colic. This fixed position of the patient is at times so marked that it is with great difficulty we get the body straightened out sufficiently to make a satisfactory examination of the abdomen.

I fully realize that, in the limited time at our disposal to-day, I have only touched the fringe of this subject; but I trust enough has been said, together with the discussion which may follow, to stimulate us to study more carefully, and to observe more closely one of the most prominent diagnostic symptoms in abdominal and pelvic diseases—pain. I feel certain our labors in this direction will have sure reward.

550 Palmerston Boulevard, Toronto.

June 1st, 1916.

THE TREATMENT OF CANCER BY FULGURATION.*

By J. E. HETT, M.D., F.R.C.S., BERLIN, ONT.

IT has been stated that "Cancer begins with the knife and ends with opium." To a great extent this statement is correct, but a great change has taken place the last decade. We all see cases for the first time in such an advanced condition that any form of operative treatment is absolutely useless.

Education along the line of cancer has accomplished some results, but that education should be brought more prominently before the public. From time to time different methods of the treatment of cancer, outside of surgery, have been advocated, only to die a natural death. The profession consequently looks upon any new form of treatment with suspicion, and justly so. Let me assure you at the outset that the treatment of cancer by fulguration is not carried on independent of surgery, but in co-operation with surgery. We are well aware of the results of operations in cancer, when the cases are treated early, with the advances made in the technique. Fulguration in its true sphere is a powerful auxiliary to surgical treatment, and the method which I have been using, with very gratifying results, is the method known as the Dr. de Keating Hart of Paris, France.

In order to understand this method it is essential to differentiate it from the following methods, viz.:

(1) Cauterization by using a specially constructed apparatus with monopolar or bipolar currents with short or long sparks of high frequency, high tension and low amperage, often called fulguration.

(2) Cauterization by using a specially constructed apparatus with monopolar or bipolar current with short or long sparks of high frequency and relatively low tension and high amperage. This is Riviere's method.

(3) Dessication or the drying out of the growth with a monopolar current. The action is not carried to the point of cauterization. It is a short spark of high frequency and high tension. It has a dehydrating action and converts the neoplasm into an inert mass. This is Clark's method. Only very small growths can be treated with this method.

(4) Diathermy is a term applied by Nagelschmidt of Berlin to the raising of the temperature of the tissues to any required extent to the point of tissue coagulation. In the treatment of cancer Nagelschmidt coagulates a layer and removes it, then coagulates another, and produced by a special apparatus which produces high amperage and relatively low tension.

*Read at the meeting of the Ontario Medical Association.

(5) Electric coagulation. Doyen claims that cancer cells are destroyed by a temperature of 122-121 degrees F., whilst normal cells have a resistance up to 140 degrees. He employs a high frequency current with a range of 10-15 amperes. It is a powerful current and can coagulate the tissues 5 to 8 centimetres in from one to two minutes. Cauterization by causes a deep coagulation.

The term "fulguration" should only be applied to a long spark of high frequency and high tension, which acts not upon the neoplasm but upon the soil upon which the neoplasm grows, or, in other words, upon the trophic centres. Three groups of facts are relied upon by him for these premises.

(1) That speaking, even when used with inadequate surgical operation, gives undeniable results, insufficient perhaps, but always very definite.

(2) That the tumor is in no way modified in its appearance or in its vitality, from which one may reasonably conclude that it is not the tumor itself, but the condition of its nutrition, that is to say the environment, that is transformed.

(3) The laboratory experiments and clinical observations furnish plausible explanation of the foregoing.

The apparatus necessary to produce the proper spark in fulguration, according to Dr. de Keating Hart, consists of:

1. A powerful current of electricity.
2. A transformer coil with rapid interrupter or transformer in the closed magnetic circuit (alternating current).
3. A large condenser furnished with a spark gap.
4. Oudin's resonator.
5. A bellows furnished, according to the case, with a foot pedal or with a tube of carbonic acid, or with compressed air.
6. Special electrodes. The electrode for delivering the spark to the patient is in the form of a sound. It is made of a smooth metallic mandrel or obturator working snugly within an insulated tube of hard rubber.

The air acts two-fold: 1. To prevent a rise in temperature of the column of air within the electrode where the sparke are produced. 2. To remove the coagulable liquids which may obstruct the free end of the sound operation.

The first step of fulguration is purely surgical. This depends entirely upon the exigencies of the case.

Before the wound is closed fulguration is applied. Only one treatment at the time of operation, no different treatments, as so many practitioners believe. The spark must be at least 12 centimetres long. With

my apparatus, constructed under the supervision of Dr. de Keating Hart, I easily obtain 15 centimetres. The spark must be used at its maximum length and must be applied to the area from which every macroscopic trace of cancer has been removed. It is then under the cancer, and not upon it, that the electrical discharge is applied.

The principle of the spark is directed not on the neoplasm, but on the soil on which the tumor has developed.

The electrode must be kept in constant motion and must be regularly passed over the surface to avoid carbonization of the tissues and to equalize the dosage. The length of time used is ten minutes for an area of ten square centimetres. The patient, of course, is kept under the anaesthetic.

The tissues become somewhat darker on account of the deposit of small blood clots. One might suppose that there is a slight burning of the tissues, but such is not the case.

The muscles look like smoked meat. Bones should not be fulgurated as long as muscles, and blood vessels not as long as tendons. Good drainage must be resorted to, for there is more oozing than in the ordinary operation.

In 1911 I made a thorough study of the various electrical methods employed in Europe in the treatment of cancer, but none appealed to me like the method of Dr. de Keating Hart, whose apparatus at that time was weaker than the improvement I have been using now over four years.

Dr. de Keating Hart had been working with his method for some years, and the results which I saw were very gratifying indeed.

Despat, appointed by the French Association for the Advancement of Science, to report upon the remote results of fulguration in the treatment of cancer (Congress at Toulouse, August, 1910), cited a number of interesting cases published by Dubois-Trepange and himself. He concludes his report with the following: "After three years' experience I conclude, as I concluded after the first year, that fulguration has enlarged considerably the field of surgery in giving it marked chances of success in those cases where it previously dared no longer intervene, and I now reply positively to the question, which I had left under judgment for two years, that fulguration gives the patient chances of prolonged non-recurrence superior to those chances which surgery gives when left to itself alone."

Second, at the International Conference on Cancer in Paris, October, 1910, declared: "Fulguration," he said, "permits surgery to intervene where intervention was no longer possible, and may offer a chance of non-recurrence to those cases which surgery alone cannot relieve."

Dr. de Keating Hart claimed that fulguration has given good results in all forms of cancer. In very advanced cases the method has important palliative effects, such as suppression of pain, haemorrhage and prolongation of life. Cancer of the breast has given him 39.5 per cent. cures. Cancer of the buccal mucosa, 83 per cent. for the periods varying from $7\frac{1}{2}$ months to 2 years. He reported 89 per cent. of successes for a mean duration of 16 months in inoperable sarcoma.

My experiences with fulguration has now dated back four years, and I have treated a considerable number of cases. Numerous breast cases have given extraordinary results, and in some there have been no recurrence after 3 and $3\frac{1}{2}$ years, whilst in others their lives have certainly been prolonged.

Time will not permit to go into the various cases in this paper, but I brought with me two patients for your inspection to-day.

E. K. Age 60. He had a large epithelioma on the right cheek, which broke down and presented a large opening, so that the tongue could be seen. He had been treated for a considerable time by the Galvano cautery and pastes, but the neoplasm kept on growing. In July, 1912, the tumor was surgically removed and the wound fulgurated. There has been no recurrence.

J. R. Age 54. Was referred to me by Dr. L. This man had an epithelioma in the antrum and filled up, not only that cavity, but the whole nasal cavity. His eye bulged. The discharge was exceedingly offensive. He had been treated by X-ray with no results. His urine was loaded with albumen.

He consulted a number of surgeons, but was pronounced hopeless and given three months to live, and nothing was done. He was operated on in July, 1914. A large opening in the antrum was made, which you still see. The neoplasm was curretted and removed. The diseased tissues in the nose, including the ethmoid cells, were also removed.

The septum in the nose was all gone, as well as the whole horizontal plate of the plate bone. Through the opening the antrum and the nasal cavity were thoroughly fulgurated and he made a splendid recovery. There has been no recurrence. The albumen disappeared three weeks after the operation and the man has enjoyed good health since.

As time has passed on from year to year I am convinced that we have in fulguration a very powerful auxiliary to surgery, and with it we can hold out far more hope than with surgery alone.

CURRENT MEDICAL LITERATURE

FUTURE POSSIBILITIES OF X-RAYS.

Dr. W. D. Coolidge, in his article in the *New York Medical Journal*, of 25th December, 1915, concludes as follows:

1. As our sources of x-rays become more and more intense, new fields of usefulness are opening up. The germicidal and sterilizing action may be commercially useful in connection with food products, etc.

2. They may be useful as an ionizing agent to bring about chemical reactions.

3. It is now possible to produce cathode rays having a velocity comparable with that of the most rapidly moving beta rays from the radioactive substances, and, at the same time, we get x-rays comparable in penetrating power with the most penetrating gamma rays. We are also able to produce canal rays which are like the alpha rays, except that they have lower velocity. These three together with metallic lead, constitute the decomposition products of radioactive substances, and it therefore seems possible that we may some day be able to produce these radioactive substances synthetically.

4. As we are now able to put energy into the atom, and as we are now getting more and more of an insight into the structure of the atom, it does not seem too much to hope that we shall some day be able to transmute the elements at will and to store up large quantities of available energy in small masses.

5. It seems probable that such work as that now being done by the physicist, on alpha ray scattering and with the x-ray spectrometer, will lead to much higher efficiency of x-ray production. The desirability of this is obvious when we think that at present we are able to utilize only about 0.2 per cent. of the energy which is put into the tube.

This means that if we could raise this efficiency to 100 per cent. and could suitably direct the rays, we should put into the tube, for say a stomach plate, not four kilowatts, but only eight watts. In other words, we should then need in the tube much less energy than we now consume in the ordinary hand battery flash lamp. I do not mean to give the impression that the work of the physicist has yet revealed a method for making the transformation of electrical into x-ray energy much more efficient than it is now; but it does seem probable that with more detailed knowledge of the mechanism of x-ray production, and this means more knowledge of the structure of the atom, that we shall some day be able to help ourselves in this direction.

6. Another dream which should come true some day, is the production of a substitute capable of making a screen say a thousand times more sensitive than anything we have now. For relatively little is known about the mechanism of fluorescence. The whole subject is one of the greatest interest and undoubtedly stands in very close relation to the production of secondary x-rays. Seeing, as we now do, the widest range in the fluorescent power shown by different substances, and with the mechanism so little understood, it does not seem too much to hope that the efficiency of this energy transformation may also be tremendously increased. Most, if not all the energy absorbed by the screen is now transformed, but the amount absorbed is very small.

7. Similarly, it does not seem too much to hope that, with our rapidly increasing knowledge of characteristic radiations, we shall some day see a photographic plate in which a much larger fraction of the x-ray energy is absorbed with a corresponding increase in speed. From the diagnostic standpoint, an increase in screen and plate sensitiveness is perhaps much more to be desired than is a more powerful or more efficient sources of x-rays, for the former would reduce the danger, while the main effect of the latter would be on the pocket book.

8. With the ability to get, as we now can, characteristic radiations of definite wave length, the germicidal and physiological actions can be scientifically studied, with the possibility of finding out whether there is, for a definite purpose, any specificity of action so that a certain cell responds more strongly to a certain wave length than to any other.

PURPURA HEMORRHAGICA.

H. W. Emsheimer, New York (*Journal A. M. A.*, Jan. 1, 1916), reports a case of purpura hemorrhagica in a 5½ year old boy in which, after failure of other treatment, the use of whole blood injections of human blood into the muscles brought about rapid improvement and recovery. He remarks on the difficulties of transfusion and serum injections to supply the deficiency of blood platelets in this disease, as the material cannot be used in sufficiently fresh condition, owing to the need of preliminary agglutination and hemolysis tests in the former and of centrifugalizing in the latter. These disadvantages may be obviated in selected cases by immediate subcutaneous or better intramuscular injections of whole blood. Although not the first time this method has been successfully used, the records of previous trials in this particular disease are rare. Emsheimer gives a review of the published cases that have come under his observation, and offers the following conclusions: 1. the best methods of treatment of purpura hemorrhagica, in

addition to the usual measures are: (a) subcutaneous or intravenous injection of human blood serum; (b) transfusion, and (c) intramuscular injection of whole fresh human blood. 2. The intramuscular injection of whole blood is a simple, harmless, effective procedure, and should be employed before other radical measures in all cases of severe purpura hemorrhagica; it may also have a wide field of usefulness in hemophilia and other blood diseases; in bleeding from various parts or organs of the body; in wasting diseases, and in many infections.

INTERNAL SECRETIONS AND GYNECOLOGY.

In the present state of our knowledge of this subject the internal secretion of the ovary is bound up chiefly in the activities of the corpus luteum. The latter supplies a principle which presides over the growth of the genitals and precipitates menstruation. A second hormone has a hemostatic action on the menses. The two, acting in alternation, cause the entire phenomenon of menstruation. The stroma of the ovary also produces a hormone which protects the development of secondary sexual characteristics. The ovarian secretions antagonize the production of breast milk and may be used in therapeutics to check galactorrhea. There are many facts of gestation which point to the existence of a placental hormone. The ovary and thyroid promote each other's activity. The latter enlarges at puberty and during menstruation and pregnancy. Gestation aggravates ordinary goiter and Graves' disease. In hypofunction of the thyroid the genitals may suffer in development and activity. The hormone of the parathyroids has an activity quite similar to that of erotin. Somewhat less obvious are the relations between the hypophysis and female genitals. Hypopituitarism inhibits the development of the latter, but so does the opposite condition of hyperpituitarism. Conversely castration of women is sometimes followed by acromegaly. The phenomena of overgrowth seen during gestation are doubtless due to activity of the hypophysis. Destruction of the epiphysis has caused precocious sexual development. The relations of the thymus with the ovary appear paradoxical. The adrenals are activated by pregnancy and are responsible for its chloasma and various other phenomena. Puerperal osteomalacia appears to be due to a general disturbance of the internal secretions.—*Medical Record.*

TREATMENT OF PSORIASIS WITH HORSE SERUM.

Perry has reported success with the subcutaneous injection of horse serum for this disease, stating that, among others, a case of six weeks' standing has been apparently cured by six subcutaneous injections at

weekly intervals, the eruption having entirely disappeared. He suggests that this remedy should be extensively tried out, care being taken with regard to anaphylaxis.—*Boston Medical and Surgical Journal*.

TREATMENT OF PLACENTA PRAEVIA CENTRALIS.

Caldwell (*Amer. Journ. Obstet.*, June, 1915) maintains, on the strength of experience in the Bellevue Hospital and the Manhattan Maternity New York, that the older treatment of placenta praevia by gauze packing should not be rejected in favour of dilating bags and Caesarean section. Five cases of placenta praevia centralis occurred within a year under Flint in the Bellevue Hospital and all were treated by gauze packing. Out of the five patients, one died from uraemic coma on the ninth day, and the fatal result can hardly be charged to the misplaced placenta; the remaining four were all discharged in good condition. Of the infants, two were dead, one being macerated, two died within the first three days, and the fifth only lived for a few weeks. According to the statistics of the Manhattan Maternity Hospital, out of 11,435 births the total of placenta praevia was 67, including 13 cases of placenta praevia centralis, where five of the infants were stillborn and five died within a few days. Gauze packing was practised in the majority of the 13 cases, though in some the dilatation was finished with bags or manually. All were more than one finger dilated on admission. After the failure of both packing and bag, *accouchement forcé* was practised in one case. Many were packed in the outdoor service and the haemorrhage was not controlled, but when properly packed under an anaesthetic in the hospital the bleeding was checked for a considerable time—in two cases for more than twenty-four hours and in one for three days—before it became necessary to remove the gauze. In all except one the dilatation had reached four fingerbreadths when the gauze was removed. One case died during delivery. The hard, undilatable cervix is more frequently associated with marginal and partial than with central placenta praevia, in which variety dilatation will usually occur in a surprisingly short time when packing is properly managed, though the cervix is friable and readily torn. Packing must be done under anaesthesia, and is best performed by the manual method. Iodoform gauze is recommended by Caldwell both before and after delivery, as it can be allowed to remain in the uterus for five or six days without becoming septic. The risk of secondary haemorrhage when the patient is in the stage of reaction is rendered less, in Caldwell's experience, by leaving the gauze in place, even to the sixth day.—*Brit. Med. Jour.*

PERSONAL AND NEWS ITEMS

Dr. Frank R. Hassard has been awarded a Military Cross for his acts of gallantry at the front. Dr. Hassard is attached to the Royal Medicals, and was formerly with the Canadian Medicals. He is a famous Varsity Rugby and hockey player. His parents live at 66 Spencer avenue, Parkdale.

The importation of opium and cocaine into the United Kingdom is prohibited by a royal proclamation issued 28th July. There has been considerable agitation lately in this country against the sale of cocaine, which, it is said, has been used in increasing quantities during the past few years, and particularly has become the habit of many people since the outbreak of the war.

Dr. H. C. P. Hazlewood, with rank of captain, is the medical officer in charge of the 204th Beaver Battalion. He graduated in 1915. He will be assisted by Dr. (Sergeant) Francis B. Grant, an Edinburgh medical graduate.

Prof. L. Albert Neisser, of Breslau University, died 31st July. Prof. Neisser was a famous dermatologist, and for many years made important discoveries about incurable diseases. In 1894 he went to Norway to study leprosy, and was later sent to Batavia at the expense of the German Government to prosecute his research work into other malignant diseases. The famous dermatologist was born in 1855 at Schweidnitz. He wrote many books on diseases, and was connected with the University of Breslau since 1878. He was placed in charge of the clinic in 1892.

Lieut. Charles Addison Moore is reported seriously wounded in a recent casualty list. He was born in London, Ont., 29 years ago, and has been in Toronto for ten years. He is a son of Dr. Charles S. Moore, London, Ont.

Definite word has been received that Dr. W. R. Haight, who was said to have been bayoneted by the Germans while he was attending the wounded, is a prisoner at Bischofswerden, in Saxony.

In an effort to find a place for surplus Canadian medical officers who have volunteered, the Canadian military authorities have succeeded in securing authorization from the British Army Medical Service to send 100 properly qualified Canadian medical doctors to England at once. The scale of pay is not identical, but is similar to that in the Canadian Army Medical Service. District medical officers have been advised of the opening for medical doctors.

The second case of infantile paralysis to develop in London was reported on 16th August by the Medical Health Officer, Dr. H. W. Hill.

The case is that of a youth, 15 years of age. The victim has been isolated and the usual precautions taken to prevent the spread of the disease.

Dr. John B. Murphy, the famous surgeon, died at Mackinaw, Mich., 11th August. He was a fellow of the Royal College of Surgeons, London. He performed more than 1,000 operations yearly for which he never received a cent, this being his contribution to charity.

Eleven surgeons and eleven nurses, comprising another detachment of the Harvard surgical unit, left on 16th August for New York to sail on the steamer Lapland for England. The party is in charge of Dr. Daniel Fiske Jones, of Boston, chief surgeon, and it will replace at a British base hospital in France other members of the unit whose term of service ends September 9th.

A new reception building at the Eastern Hospital, Brockville, was formally opened on 16th August with a luncheon and a special meeting of the Leeds and Grenville Association. Sir James Grant, Dr. J. L. Chabot of Ottawa, and a large number of practitioners in Ontario were present. Dr. J. C. Mitchell, Superintendent of the Eastern Hospital, presided. S. A. Armstrong, Assistant Provincial Secretary, represented the Ontario Government.

Hon. Dr. Beland, in captivity since early in the war, is said to be still a prisoner in Germany. There have been repeated negotiations to secure his release, but so far without avail. He was allowed to go to visit his wife, who was ill, but had to return.

Lieut. Charles Walter Hoare, 19th Battalion, formerly of 99th Battalion, aged 18 years, only son of Dr. and Mrs. C. W. Hoare, Walkerville, Ont., was killed in action in France, 14th August.

Jessie Wingfield Lynd, widow of the late Dr. Adam Lynd of Toronto, died at her home, 70 Howard Park avenue, on 17th August.

The Duke and Duchess of Devonshire and Sir Sam Hughes were at the opening of the Canadian Red Cross Hospital at Buxton, England. The Duke and Duchess praised the work of Canada in this war. The Duchess referred to the happy years that she had spent in Canada at the time her father was Governor-General. She expressed the anticipation she felt that there were now more happy years to come for her in the Dominion with the Duke of Devonshire as Governor-General.

A very successful garden party was held at Centre Island, Toronto, under the auspices of the Suffragists' War Auxiliary, in aid of the hospitals in Brittany, France. Over \$200 was cleared.

The Ontario Government is establishing a research bureau at the University of Toronto. The services of the experts will be placed at the disposal of the manufacturers and business interests practically free of cost.

The Committee for the Prevention of Blindness in the United States is authority for the statement that there are more than 10,000 blind persons because their eyes were neglected during the first few days of life. Many more are partly blind for the same reason.

It is announced from Hot Springs, Ark., that capital is being raised in New York for the erection of a large sanatorium at that place. The building and grounds will occupy ten acres and will cost \$9,000,000.

In the *Medical Record* of July 1 (p. 29) reference was made to Rickett's recommendation of calcium sulphide as an antidote to bichloride of mercury. For every grain of mercury which has been taken he gives one grain of calcium sulphide by the mouth, and repeats it every two hours until five doses have been taken.

Sir William Osler has sent word to a number of American surgeons that there are vacancies for 120 young American medical graduates in the military hospitals of London and its immediate neighborhood. The term of service is six months. There will be a small salary and passage will be paid both ways. Applications will be received by Dr. Richard Cabot and Dr. Henry A. Christian of Boston; Dr. W. S. Thayer of West Fifty-ninth Street, New York.

Dr. W. W. H. Tate, F.R.C.P., obstetric physician to St. Thomas's Hospital, died on 5th July at the age of 51. He was regarded as a noted authority on his specialty.

It is planned to erect a memorial to the late Major Walter Reed, head of the Army Commission which confirmed Finlay's mosquito theory of the transmission of yellow fever, on the campus of the University of Virginia, of which he was a graduate.

A bill has been introduced in the Georgia Legislature requiring a college course of two years as a preliminary for admission to any medical school in the State. The bill also provides that there shall be no appeal from the decision of the Board of Medical Examiners when the license of a physician is revoked.

The new dispensary building of the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases has been formally opened and dedicated to the memory of Dr. S. Weir Mitchell, a founder of the institution and for many years chief of the staff.

Dr. T. Gillman Moorhead, F.R.C.P.I., has been elected Professor of the Practice of Medicine in the schools of the Royal College of Surgeons of Ireland in succession to Sir John Moore, retired.

Sir W. Watson Cheyne has been re-elected President of the Royal College of Surgeons, and Mr. W. Harrison Cripps and Mr. C. J. Symonds vice-presidents.

Dr. R. K. Kilborn has resigned his position as medical officer to the Kingston Military College on account of ill-health. He held the office for sixteen years.

The Alexandra Hospital, Montreal, treated last year 903 cases of infectious diseases. There were 54 deaths. The cost per diem was \$2.20.

Dr. T. B. Davis has been appointed coroner at Hull as successor to the late Dr. H. F. Lyster.

Dr. H. E. Young, who has been Provincial Secretary in the British Columbia Government, has been appointed Provincial Health Officer and Secretary of the Health Department.

An important amendment has been made in the laws of British Columbia, which renders each municipality responsible for the maintenance of its own residents in the hospital in which they may be cared for.

Dr. Harold Chapman, of St. John's, Newfoundland, lost his life when the Hampshire went down.

Dr. George A. Badgerow, formerly of Toronto, has been appointed to the honorary staff of the Daughters of the Empire Red Cross Canadian Hospital for Officers. He is also on the staff of the Ontario Hospital at Orpington.

Major Charles Gilmour, C.A.M.C., of Toronto, has been transferred from the Duchess of Connaught Red Cross Hospital at Cliveden to the Military Hospital at Bramshott as chief surgeon. The 4th Division of Canadians are there.

Dr. (Major) E. W. Irving, of Toronto, is in charge of the Canadian Division of the Woodcote Park Convalescent Hospital for Epsom. Dr. Harold Bell, of Collingwood, is an assistant.

Dr. F. E. Vrooman, for some time superintendent of the Isolation Hospital at Brockville, has been appointed superintendent of the new military hospital at Cobourg.

Dr. Riel Hillier graduated in 1886. He served in the rebellion of 1885. In 1915 he went with No. 3 Hospital to the Dardanelles, and later to various places in Egypt. Now with the Canadian Hospital No. 3 in France.

Dr. Hastings, M.H.O., for Toronto, states that notwithstanding the excessive heat and continued drought of this summer the death rate in Toronto is lower than during the summer of 1915. This is specially of diseases of children and consequent deaths.

There have been a few cases, mostly mild, of infantile paralysis in Ontario. There seems to be no reasons to fear an epidemic.

Colonel Hodgetts, head of the Canadian Red Cross work in England, announces the intention of the society to establish another hospital of

one thousand beds, probably on the Kentish coast. Recently Dr. Hodgetts inspected Clarine House, at Roehampton, taken by Miss Winnifred Lewis, of Ottawa, for a convalescent hospital. This fine old mansion was the residence of William the Fourth. It will open with accommodation for 75 patients. Among the voluntary workers is Mrs. Robertson, daughter of Sir George Perley.

Up to August 17th there had been 6,774 cases of infantile paralysis in New York, with 1,529 deaths; but there were indications that the disease was dying out.

The Government of the United States, in conjunction with municipal, county and State health officials in practically every commonwealth in the country, is planning the most colossal health survey ever undertaken. The purpose of the movement, which is comparable in magnitude to a national census, is to prevent epidemics.

Another new circular is being sent out by the Provincial Board of Health to various doctors and medical health officers throughout the Province in regard to infantile paralysis. The circular points out that the early symptoms of the disease to be regarded as suspicious are fever, vomiting, slight diarrhoea, listlessness, unusual fretfulness and drowsiness. Later and more characteristic symptoms are the appearance of weakness in any extremity, skin and muscular sensitiveness, spinal pain, especially on flexion, and apparent or real rigidity of the neck muscles. The circular states that kissing of children is a dangerous practice and should be avoided.

The charge is made by *The London Chronicle* that Canadian soldiers have introduced the cocaine habit into England. This is certainly not true, as very few of the Canadian soldiers are victims of the habit, and they could not get access to the drug while in camp on training, nor could they mingle with the public to spread the habit.

OBITUARY

HARRY GOODSIR MACKID, M.D.

Dr. Harry Goodsir Mackid, of Mackid & McLaren, Calgary, one of the best known physicians in the West, died there suddenly on 17th August. He formerly was President of the Dominion Medical Association, and has been coroner for Alberta, chief surgeon for the C. P. R. Alberta division, and has been connected with most of the principal medical associations in Canada. Dr. Mackid served with the Queen's Own Rifles in Toronto from 1876 to 1879.

LIEUT. W. LAWRENCE EVANS, M.B.

Lieut. W. Lawrence Evans, son of W. J. Evans, St. Mary's, Ontario, was killed in action on 11th August. Lieut. Evans received his degree in medicine last year from the University of Toronto. He was twenty-three years old, and a member of the University Lodge, A. F. & A. M., and the first member to fall on the battlefield. He left Toronto last November, and received a commission in the King's Own Liverpool Regiment. He had two brothers at the front. He was a brilliant student.

WILLIAM ERNEST McLAUGHLIN, M.D.

William Ernest McLaughlin, M.D., of 14 Garnock Avenue, Toronto, died suddenly near Port Dover on Saturday, 12th August. He was stricken while driving to Waterford, and passed away before medical aid could reach him. He was thirty-nine years of age, and is survived by his widow and one child. The late Dr. McLaughlin had not been practising his profession for some years. He was extensively interested in real estate.

EDWIN HENRY KERTLAND, M.D., C.M.

Dr. Edwin Henry Kertland, one of Toronto's oldest physicians, died after a few days' illness, on 1st August, in his ninety-first year. Dr. Kertland was born in Dublin, Ireland, and came to Canada as a young man. He was then an engineer and surveyor, and was employed on one of the early railways of the Dominion. He then took a course at Queen's College, Kingston, and after graduating served as physician during the Civil War. In 1896 he came to Toronto, and for the twenty-five years had been retired. At different times he had resided at Brockville, Prescott and Kingston, where he married a daughter of the late Sheriff McLean. Mrs. Kertland predeceased him some years ago, but two daughters and two sons survive—Mrs. Douglas Burns and Miss Kertland of Toronto; A. H. R. Kertland and M. M. Kertland of Toronto.

During the rectorship of Rev. T. C. S. Macklem, now Provost of Trinity College, Dr. Kertland was for many years people's warden of St. Simon's Church. Three of his grandsons are serving in the overseas forces—Lieut. Douglas Kertland, Lieut. Edwin Burns, of the 169th Battalion, and Pte. Gavin Burns of the Cyclist Corps.

O. W. TANNER, M.D.

Dr. Tanner was serving with his battalion at the front and was killed during an action. Dr. Tanner was engaged in practice in Moosomin, Sask., but enlisted for service. He was well known in Saskatchewan, as he took a very active interest in medical associations. He was a man of marked ability and of strong convictions. He graduated from the University of Toronto in 1899.

DOUGLAS WATTERSON, M.D.

Capt. D. Watterson, C.A.M.C., of Montreal, was killed in action in France. He was a native of Belleville, and took his medical course in McGill University, Montreal. He located in that city. He graduated in 1914, and shortly afterwards entered the army medical service.

HERBERT SMITH, M.D.

Dr. H. Smith died in Burin, Newfoundland, after a brief illness. He was a native of Bermuda, but lived and carried on his practice in Newfoundland. He was sixty-three years of age.

DR. LYSTER.

Dr. Lyster, of Hull, Quebec, died there some time ago. He was in his 49th year. He was born in Montreal and graduated from McGill in 1896. He was coroner for Ottawa County.

J. EDGAR JONES, M.D.

Dr. Jones died at his home in Digby, Nova Scotia, of heart trouble in his 79th year. He was well known throughout that part of the province. He was elected by acclamation Mayor of Digby four times. A few years ago he was made postmaster of the town.

W. J. GRAHAM, M.D.

Dr. Graham died at Springeld, New Brunswick. He was born in Birkenhead, England, and came to this country five years ago. He was a surgeon to the Transcontinental Railway.

JAMES REID, M.D.

Dr. Reid lost his life in the recent fires in Northern Ontario. He was postmaster at Kelso, where he was at the time of the disastrous fire.

GILBERT TWEEDIE, M.D.

Rev. Gilbert Tweedie, M.D., passed away on 23rd August at his residence, 53 Langley Ave., after a long illness partly caused by falling from a street car at the corner of Church and Queen Streets, in March last. Dr. Tweedie was born in Dumfriesshire, Scotland, in 1828, and after attending the Edinburgh University came to Toronto at the age of 21. He entered Knox College and was graduated from that institution. After a period of successful work in the ministry he discovered that owing to throat trouble he would have to abandon the pulpit. He entered Victoria University and took his degree as a physician in 1860, and practised in Dresden and Kent county until 1891, when he returned to Toronto. For 17 years he was medical superintendent of the Isolation Hospital. His wife, four daughters and three sons survive.

PROF. THOMAS GREGOR BRODIE, F.R.S.

Prof. Thomas Gregor Brodie, of the University of Toronto, died suddenly in London on 20th August. Prof. Thomas Gregor Brodie, F.R.S., who was associated with Prof. A. B. Macallum in the Department of Physiology at the University of Toronto since 1908, was a distinguished scientist. He was a captain in the Canadian Army Medical Corps, and was attached to No. 4 Canadian General Hospital. He was born at Northampton, England, in 1866, and educated at Cambridge and London. Before coming to Canada he held several important appointments in the old land, among them being lecturer on physiology, St. Thomas Hospital Medical School, 1895; director of research laboratories of the Royal College of Physicians and Surgeons, 1899, and lecturer on physiology, London School of Medicine for Women, 1899-1909.

J. F. MATHER, M.D.

Dr. J. F. Mather, who for a number of years practised in Belleville, died on 2nd July, at Long Beach, California, whither he went for his health. His body was brought home for interment.

BOOK REVIEWS

A TEXT-BOOK OF PATHOLOGY.

By William G. MacCallum, M.D., Professor of Pathology in the College of Physicians and Surgeons, Columbia University, New York City. Octavo volume of 1,085 pages, with 575 original illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$7.50 net. Canadian agents, The J. F. Hartz Co., Limited, 24-26 Hayter Street, Toronto.

In his preface the author states that there is no attempt made to divide the work into special and general pathology. He states "that all pathological disturbances are the result of some form of injury, or of the immediate or more remote reactions of the injury." There are a few chapters devoted to general principles, while the balance of the book is devoted to the various types of injury. The author admits that a difficulty arises in the case of tumors where one does not know the exact nature of the injury causing the pathological changes. In the main, however, the author works out his scheme and produces a really valuable and scientific work, and one that is destined to be of the utmost usefulness to students of medicine and practitioners. The main position of the author is to study pathological conditions and processes from the etiological standpoint.

The author omits questions of heredity, malformations, the biology of bacteria, and many diseases of the nervous system, because they are so fully dealt with in many excellent special works. In this we think the author has acted wisely. It has always seemed to us that it is impossible to do justice to such topics as bacteriology, malformations, and heredity in any ordinary text-book on pathology. This position does not exclude due consideration of the morbid changes that arise from infections, such as in nephritis or the arterial diseases of syphilis; nor does it prevent a proper study of the infections.

The general arrangement of the book is convenient and well adapted for the student. A careful examination of the book convinces one that the author has spared no pains to bring it up to date in all essentials. The teachings on the important subject of pathology are sound throughout.

The book is an exceedingly attractive one. The paper, binding, typography and illustrations are all that can be desired, and the publishers are entitled to the fullest credit for their efforts to place before the profession so valuable and handsome a volume.

IMMUNIZATION AGAINST TUBERCULOSIS.

Studies in Immunization Against Tuberculosis. By Karl Von Ruck, M.D., and Silvio Von Ruck, M.D. New York: Paul B. Hoeber, 1916. Price, \$4.00.

Dr. Karl Von Ruck, of Asheville, North Carolina, has been known for many years as an original investigator on the subject of tuberculosis. For a long time he has been studying how to prepare from the bacilli of the disease a therapeutic agent that would both prevent and cure tuberculosis. His work is of a most original character.

Gradually the authors of this book have been trying to obtain an extract from the bacilli that would yield the desired results. They claim that this object has been attained. A watery extract is obtained from the bacilli. This extract contains all the elements found in the bacilli. By the use of this product excellent results have been realized by the authors.

We commend this book very highly. We feel that its careful study will do much for a large group of sufferers. On the whole subject of tuberculosis much light will be secured by the reading of this volume. But the part that is of vital interest is the good that may be done by the employment of this method of treatment. The vaccine, as prepared by Dr. Ruck, is employed as a means of producing immunity against the contracting of the disease, and especially in the cases of families where the disease has made a recent appearance.

The vaccine contains the entire content of the bacilli, including the fats, one milligram of which is contained in each centimeter of the watery extract. The researches that have led up to the preparation of the present form of the vaccine have occupied many years. It will be the hope of all that a real advance has been made in the treatment and prophylaxis of tuberculosis by the use of this vaccine.

BIRDS, FISH AND GAME.

Commission of Conservation, Canada, Committee on Fisheries, Game and Fur-bearing Animals. Conservation of Fish, Birds and Game. Proceedings at a meeting of the Committee, November 1 and 2, 1915. The Methodist Book and Publishing House, Toronto.

This volume contains many and valuable addresses on the topics named in the title of the book. Almost every phase of the subject is discussed. The contents of this volume should receive the close attention of all who are interested in the preservation of our birds, fish and game.

JOSLIN ON THE TREATMENT OF DIABETES MELLITUS.

The Treatment of Diabetes Mellitis, with Observations upon the Disease Based upon One Thousand Cases. By Elliott P. Joslin, M.D., Assistant Professor of Medicine, Harvard Medical School; Consulting Physician, Boston City Hospital; Collaborator to the Nutrition Laboratory of the Carnegie Institution of Washington, in Boston. Octavo, 440 pages, illustrated. Cloth, \$4.50 net. Philadelphia and New York: Lea & Febiger, Publishers, 1916.

The new treatment of Diabetes—the Allen treatment—by means of fasting, and the importance of physical exercise for diabetic patients, are fully discussed in this work. Fasting is in itself a distinct advance, but the practical simplification of treatment which it entails is an almost greater advantage.

Oddly enough, with the completion of this book came the completion of the author's first thousand cases treated in private practice. The book contains the results of his experience with these cases and is written for the general practitioner. Incidentally, it contains nothing which diabetic patients may not read with profit, and it will be found a useful book to place in their hands.

Complications of diabetes are described along with their treatment, thus saving repetition and showing the doctor how to handle each complication when it develops. The hopeful tone which the author's experience has enabled him to assume regarding such complications as tuberculosis, arteriosclerosis and gangrene will be found most encouraging. The section on surgery will enable the surgeon to operate on diabetic patients without sending them into coma.

Under Aids in the Practical Management of Diabetes Cases the author gives a list of things every patient should know, complete directions for nurses, history charts and dietary and urinary records now successfully used in many institutions, and the actual diets employed in typical groups of cases. The section on Foods and Their Composition is so arranged as to make it unnecessary for physicians owning this book to possess any other book on food values, either for treatment of diabetic or other patients. Standard recipes and diets for severe cases of diabetes are given, notably an appropriate diet for severe diabetic patients who are poor.

The book starts out by laying down a definition of diabetes mellitus as follows: "Diabetes mellitus is a disease in which the normal utilization of carbohydrate is impaired, in consequence of which glucose is excreted in the urine." The author "considers any patient to have diabetes mellitus and treats him as such, until the contrary is proven, who has sugar in the urine demonstrable by any of the common tests. This view will have the effect of enlarging the number of regarded victims of the disease; but the author again holds that "this method of pro-

cedure is safer for the patient than to make use of the term glycosuria, which begets indifference."

The author considers physiological glycosuria, alimentary glycosuria, and other forms of the disease. He discusses the increase of diabetes. He states that approximately one death in every hundred in the United States is due to this disease. Much attention is given to the causes of death, taking up cancer, tuberculosis, cardiorenal conditions, infections, coma, impaired kidneys, mental disturbances, loss of body fluid, and some other more general conditions.

Two full and complete sections are devoted to "Important Factors in the Treatment of Diabetes Mellitus," and "The Examination of the Urine, Blood and Respiration in Diabetes." We now come to the important section that discusses "The Treatment" of the disease, and another section of great interest dealing with "Aids in the Practical Management of Diabetic Cases." It would be impossible to summarize these two sections, as they do not lend themselves to any condensation. Suffice it to say that the most modern views are here set forth. He speaks in terms of praise of the starvation treatment, and lays down rules whereby it may be carried to the benefit of the patient. He warns against improper methods of resorting to this treatment, and points out the dangers that may be encountered. It is noteworthy how much of the treatment is hygienic and dietetic, and how little it is by drugs. We have not perused a better work on diabetes, and recommend it to our readers.

ROENTGENOGRAPHIC DENTAL DIAGNOSIS.

Roentgenographic Diagnosis of Dental Infection in Systemic Diseases. By Sinclair Tousey, A.M., M.D., Consulting Surgeon, St. Bartholomew's Clinic, New York. New York: Paul B. Hoeber, 1916. Price, \$1.50.

This is a very interesting and instructive book. It deals with a number of important diseases of the teeth and the alveolar processes caused by infective conditions. The book is well illustrated with plates and figures. The book is handsomely got up, and can be recommended as a useful aid in the study of diseases of the teeth.

KREHL'S CLINICAL PATHOLOGY.

The Basis of Symptoms, the Principles of Clinical Pathology. By Dr. Ludolph Krehl, Ordinary Professor and Director of the Medical Clinic at Heidelberg. Authorized translation from the seventh German edition by Arthur Frederic Beifield, Ph.B., M.D., Instructor in Medicine, Northwestern University Medical School, Chicago. With an introduction by A. W. Hewlett, M.D., Professor of Internal Medicine, University of Michigan, Ann Arbor. Third edition. Philadelphia and London: J. B. Lippincott Company. Cloth, \$5.00. Canadian agent, Charles Roberts, 201 Unity Building, Montreal.

This excellent work deals with the circulation, the blood, infection

and immunity, respiration, digestion, nutrition and metabolism, diabetes, carbohydrates, diatheses, fever, secretion of urine, the nervous system. Each section contains much valuable information. In this work disease is studied as a perversion of physiological function. Throughout the volume pathology and clinical manifestations go hand in hand. It is advocated that the physician should make use of the skilled physiologist, pathologist and chemist. "At the bedside the physician must determine how a disturbance of the co-ordinate action of the different organs affects the individual as a whole." To the solution of this problem the volume is devoted. Each of the chief organs are taken up serially, and the process traced back from their normal function to the derangement that result from morbid changes in these organs; and then to the special form of such morbid change. The book can be recommended to the general practitioner, but especially to the clinical teacher.

DISEASES OF THE EYE.

By George E. de Schweinitz, M.D., LL.D., Professor of Ophthalmology in the University of Pennsylvania. Eighth edition, thoroughly revised and enlarged. Octavo of 754 pages, 386 text illustrations, and seven lithographic plates. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$7.00 net; half morocco, \$7.50 net. Sole Canadian agents, The J. F. Hartz Co., Ltd., Toronto.

This work requires neither introduction nor praise; for it is well known and its merits have long been recognized. There are some books that are really good and this is one of that precious set. The author possesses two qualities that are so important for everyone who undertakes the task of writing a book for the guidance of others. These qualities are knowledge of his subject and style of expression. The matter and form are here found in rare combination. It would be a great comfort to medical practitioners, and boon to their patients were the teachings of this work the order of the day.

COLLECTED PAPERS OF THE MAYO CLINIC.

1915 Collected Papers of the Mayo Clinic, Rochester, Minn. Octavo of 983 pages, 286 illustrations. Philadelphia and London: W. B. Saunders Company, 1916. Cloth, \$6.00 net; half morocco, \$7.50 net. Sole Canadian agents, The J. F. Hartz Co., Ltd., Toronto.

The Mayo Clinics are looked forward to with interest, and the interest is not disappointed by the present volume. It is a large book, well printed and handsomely bound. The paper is of very fine quality. The illustrations are numerous and artistic. The editing of the many

contributions has been well done by Mrs. Maude H. Mellish. The contributors number thirty-seven. The topics discussed are varied, but they are all of a practical and useful character. We praise the volume highly, as less would be unjust and more would be useless. There is enjoyment in store for the reader.

VENESECTION.

A Brief Summary of the Practical Value of Venesection in Disease, for Students and Practitioners of Medicine. By Walton Forest Dutton, M.D., Fellow of the American Medical Association, ex-President of Carnegie Academy of Medicine, etc., etc. Illustrated with several text engravings and three full-page plates, one in colors. Philadelphia: F. A. Davis Company, Publishers. English depot, Stanley Phillips, London. 1916. Price, \$2.50.

We have an interesting volume. It goes carefully into the methods of blood-letting. It also deals with local bleeding, such as wet-cupping and scarification. The author points out the diseased conditions for which blood is suitable and has been found to be of value. The book will well repay a careful study. It will be well if its teachings were widely known and followed.

MASSAGE AND EXERCISES.

Practical Massage and Corrective Exercises. By Martwig Nissen, President of the Posse Normal School of Gymnastics, Superintendent of Hospital Clinics in Massage and Medical Gymnastics; for twenty-four years Lecturer and Instructor of Massage and Swedish Gymnastics at Harvard University Summer School, etc., etc. With 68 original illustrations, including several full-page half-tone plates. Philadelphia: F. A. Davis Company, Publishers. English depot, Stanley Phillips, London, 1916. Price, \$1.50.

That massage and corrective exercises have a valuable place in the therapeutics of disease and deformities there is no longer any doubt. In this volume the place of massage and physical exercises are set forth in a most lucid manner. We cordially recommend the book.

MISCELLANEOUS

DISAPPROVES OF "TWILIGHT SLEEP."

Johns Hopkins Hospital has practically set its stamp of disapproval on the Dammerschlag or "twilight sleep" method for use in child-birth. It abandoned its experiments in use of the method more than nine months

ago, and the conclusion reached is that the method is too dangerous, and that it is a menace to the life of a new child and too grave to warrant its use except under the most favorable circumstances.

After more than a year's use of the "twilight sleep" drug scopolamin, obstetricians found it could be safely used only under exceptional conditions. The question of proper dosage proved so intricate that absolutely no chances can be taken.

The early results obtained were such that in subsequent cases it was necessary to have two highly experienced men always at the bedside of the expectant mother, as well as several nurses.

TOO MUCH ALCOHOL IN INVALID PORT.

Police Magistrate Denison, of Toronto, after hearing many witnesses called by the prosecution and the defence, gave a decision recently that "Dr. Milburn's Invalid Port" was not sufficiently medicated to prevent its use as an alcoholic beverage. He fined the manufacturer, Ernest J. Morrow, \$40 and costs, with the alternative of one month's imprisonment, on this charge, and remanded him for sentence on two others of a similar nature. Analysis showed that the invalid port contained 18 per cent. of proof spirit or 9 per cent. of alcohol.

TRANSFER OF MEDICAL OFFICERS.

Capt. Moore, who has relinquished his duties as officer in charge of Beachborough Park Hospital, Shorncliffe, has now been transferred of the Canadian Medical Corps at Bramshott, where he has received a commission in the 4th Division and has been attached to the 10th Brigade. Capt. D. W. Meggafin, formerly of the 4th Battalion, Ontario, and latterly of the 36th Battalion, Shorncliffe, succeeds Capt. Moore at Beachborough Park Hospital. Captains F. F. Tisdall and E. L. Clark, of Toronto, have been appointed resident surgeons, vice Majors Norman Wallace, of Guelph, and C. J. Stewart, of Calgary, resigned.

Lieut. H. J. C. Gilbert, of Vancouver, recently wounded, sailed for Canada on Monday on three months' leave.

TORONTO VITAL STATISTICS.

According to the figures issued by the Department of Public Health for the city of Toronto during the month of July, there was a considerable decrease in the number of cases of contagious diseases reported to

the authorities as compared with June, 1916, and July, 1915. This is chiefly due to the substantial decrease in the number of cases of measles.

The actual number of cases reported was:

July, 1916	June, 1916	July, 1916
317	427	473

There were only 39 cases of measles reported, compared with 273 in 1915. There is only one case of smallpox, whereas at this time last year there were five. Typhoid shows an increase from three last year, and three in June, 1916, to twelve last month. Of these twelve cases, six originated outside the city limits. Whooping cough jumped from 32 in June to 66 in July. Dr. Hastings says there is no cause for alarm in this. Whooping cough, he says, is a disease of which the germ has not yet been found, and fluctuates continually.

The following comparative table shows the fluctuation in the number of cases reported:

	June, 1916	June, 1916	July, 1915
Diphtheria	69	67	46
Scarlet fever	22	64	37
Typhoid	12	3	3
Measles	39	61	273
Smallpox	1	2	5
Tuberculosis	56	104	56
Chicken pox	47	84	25
Whooping cough	66	32	19
Mumps	5	10	9

COL. HERBERT A. BRUCE.

Herbert A. Bruce has been made a full colonel in the Canadian Army Medical Corps, and attached to General Carson's headquarters staff in London, having received a commission to inspect all the Canadian hospitals and medical institutions to which the Canadian Government is contributing, and to report upon their work, and any recommendations in regard to the same.

He will inspect the hospitals in the London area first, and then elsewhere in England; afterwards going to France to inspect the various base and stationary hospitals, casualty clearing stations and field ambulances situated there, and as there are three Canadian hospitals in Salonika, he will probably visit them afterwards.

DISEASES ARE SPREADING.

The report of the Provincial Board of Health for the month of July shows a serious condition in the Province in certain diseases, particularly infantile paralysis and spinal meningitis. There were eleven cases of infantile paralysis, causing two deaths, as against one case and no deaths in July last year; spinal meningitis, ten cases and ten deaths, as against thirteen cases and seven deaths last year. Whether the ten deaths were all from cases which developed in July, or whether some of them were cases from previous months, the department does not say. There were nine cases of smallpox and three deaths, as compared with twenty-six cases and no deaths in July, 1915.

The epidemic of measles registers itself on the records. During July there were 1,234 cases, with eight deaths, but in July, 1915, there were only 496 cases and six deaths. Scarlet fever shows 80 cases and nine deaths, as against 83 cases and two deaths; diphtheria, 179 cases and nineteen deaths, as against 175 cases and ten deaths; whooping cough, 179 cases and eight deaths, as against 133 cases and nine deaths; typhoid, 76 cases and nine deaths, as against 53 cases and five deaths; tuberculosis, 143 cases and 82 deaths, as against 105 and 70 deaths.

Health authorities say that the intense heat in July accounts in a large measure for the spread of the diseases. One new case of infantile paralysis was reported from Windsor, making twelve in that city.

REPORT OF THE SPECIAL COMMITTEE ON MEDICAL LEGISLATION OF THE ONTARIO MEDICAL ASSOCIATION.

This committee was appointed by the President of the O. M. A. when it became known that the Government had empowered the Hon. Justice Hodgins as Commission,

1. To inquire into and report upon:

(a) All or any matters relating to Education for the practice of Medicine in or affecting the Province of Ontario.

(b) The Constitution, powers, duties and regulations of any body corporate or unincorporated and of any faculty or department thereof having any relation to medicine, the exercise of the same and the revenue and expenditures thereof.

(c) The situation, legal, or otherwise, of such bodies in regard to each other or to the Province.

(d) The establishment, creation, control and regulation of any new body intended to have relation to medicine.

(e) The existing or possible methods of examining licensing or

otherwise authorizing the carrying on by individuals of the practice of any methods having any relation to medicine and the standards prescribed and followed or proper to be established and followed.

(f) The present positions, status and practice of osteopaths, dentists, nurses, opticians, optometrists, chiropractors, christian scientists or others practising or professing medicine.

(g) The existing laws of Ontario in relation to any of the foregoing and their practical operation.

(h) Any matter arising out of the foregoing which it is necessary to investigate with a view of the above enquiries.

2. To make such recommendations in regard to the above as the Commissioner may think desirable.

The committee (composed of) Chairman—R. A. Reeve, A. H. Wright, Angus McKinnon, F. N. G. Starr, A. J. Johnson, W. L. T. Addison (Secretary), J. Ferguson, S. M. Hay, I. Olmstead, R. Ryan, W. H. B. Aikens, H. S. Griffin, J. A. Temple, Hon. Dr. Reaume, W. T. Parke, Sir James Grant, D. J. Gibb Wishart, W. A. Ross, H. T. Machell, H. A. Bruce, Forbes Godfrey, organized on Oct. 20, 1915, with R. A. Reeve as chairman, F. A. Clarkson, (sec. of the O. M. A.) acting as secretary until the appointment of W. L. T. Addison. It was realized that this was the most important juncture in the history of the profession since the passing of the Ontario Medical Act fifty years ago. It was arranged to appear before the Commissioner and present the views of the profession upon the matters with which he had to deal.

The committee met the Commissioner on Oct. 22, 1915, and after a short introductory statement by the chairman, the case for the profession was fully and ably presented at length by our President, Dr. H. B. Anderson. His address has been published in the medical journals.

Dr. Angus McKinnon and Dr. H. Howitt, of Guelph, Dr. John Ferguson of Toronto, Dr. Stewart Cameron, of Peterboro, Dr. H. J. Hamilton of Toronto, Dr. Chas. Sheard, ex-Medical Health Officer, also addressed the Commissioner strongly emphasizing and supporting the arguments already presented.

The following resolutions adopted by the Committee at its first meeting were also read:

1. That it is highly desirable there should be a definition of the "practice of medicine" for the guidance of the courts of this Province; and it is most regrettable that the lack of such definition has proved an effective bar to the efforts of the Medical Council to enforce the law.

2. That the license of the College of Physicians and Surgeons of Ontario should continue to stand, as it has done for many years, as an

evidence of a good general education, and of a thorough scientific and professional training.

3. That it is inimical to the public welfare and unfair to the medical profession for the Government, the guardian of the people's rights and interests, and administrator of education in the Province, to grant incorporation to any body with power to establish quasi colleges of medicine or institutions to disseminate cults or pathies.

One cannot but pay tribute to the unfailing courtesy shown by the Commissioner and the care and thoroughness evinced by him in his efforts to acquaint himself with all the facts, data, and details which could have a bearing on the complicated problem which he has set himself to solve. As the Commissioner has not yet arranged for other (promised) interviews—evidently finding it not feasible to finish his report to the Government in time for the preparation of a bill to be submitted to the Legislature, no further action has been taken by the committee than the adoption of certain resolutions which are appended.

We propose when occasion offers to take up with the Commissioner the claims and contentions of the irregularities which they have formally presented before him. It is, of course, the desire and intention of the committee to utilize the great weight of influence which can be brought to bear by the various county and local societies of the Province in order to emphasize the validity, force, and justice of the views of the profession as to its own legitimate status and prerogatives, and to oppose all efforts and claims of "irregulars" which are not founded on the welfare and best interests of the public, whose weal is the chief aim of our life work.

Various resolutions adopted by County Medical Societies have already been received and will be presented at the next session of the Commission.

Resolution adopted by the Special Committee on Medical Legislation of the Ontario Medical Association:

That osteopathy, chiropractic and mano-therapy have signally failed to substantiate their claims to recognition and legislation, as distinctive systems of medicine, and therefore that the Government and Legislature would not be warranted in granting their followers special powers and prerogatives based on such assumption or in according them the status of legally qualified practitioners of medicine.

The medical profession of Ontario refuses to recognize the validity of the so-called "vested rights" urged by irregular practitioners by virtue of the lapse of time of their undisturbed operations in this Province, and disclaims any responsibility for an exemption incidental to faulty judicial decisions.

Resolved; That in view of the varying conditions under which services may be rendered by the practitioner, and the varying amount of skill required in serving the needs of patients requiring medical services, and the difficulty in fixing the monetary value of such services, it is not practicable to adopt a uniform scale of fees for medical, surgical and obstetrical services throughout the Province, which will be fair to the patient and to the physician.

OPTOMETRY.

The optometrists are seeking legislation giving them incorporation virtually as a profession, a distinctive name, with a definite status, a college and board; power to deal with curriculum, examinations, certificates, to grant exemption certificates to those already in business, and inflict penalties, etc.—a fairly close corporation.

It is claimed that optometry is not the practice of medicine, whereas it is an integral part of ophthalmology and belongs distinctly to physiotherapy. This attempt on the part of the more ambitious opticians is the less justifiable because they have already a charter of incorporation with wide powers, and because for years practical training in ophthalmic work, including refraction, has been compulsory in the curriculum of the medical colleges.

Resolution of the Section of Ophthalmology and Oto-laryngology of the Academy of Medicine, Toronto, and adopted by the Special Committee on Medical Legislation of the Ontario Medical Association, and also by the Academy of Medicine, Toronto.

1. Whereas in a large percentage of cases of eye-strain, especially in adolescents, the use of medicine is required in order properly to gauge and correct any optical defects present, and none but practitioners of medicine have the right to use drugs to this end, and so-called optometrists can have no privileges in this regard not now held by opticians;

2. Whereas, opticians, who have a legitimate sphere in a mechanical pursuit, are necessarily ignorant of the far-reaching effects of eye-strain and of the diseases of the eye and of the changes which the organ may reveal indicating affections of the nervous, vascular and other systems and parts of the body;

3. Whereas, moreover, in the United States where similar legislation to that aimed at here has been secured, it has proved injurious instead of beneficial to the public, amongst other reasons by increasing the number of those seeking aid from the optician who really need the services of the physician and the oculist;

4. And where, under their present charter of incorporation opticians can adopt and utilize a variety of means to develop greater skill and

usefulness in their calling and can exclude the unfit from their ranks without further powers;

5. And whereas, opticians have been and are tradesmen and buy and sell and advertise like other merchants; and are not entitled to be recognized as a profession any more than the makers and vendors of artificial limbs, who follow a similar calling;

Therefore, resolved, that the members of the Section of Ophthalmology and Oto-laryngology of the Academy of Medicine are strongly opposed to the proposed legislation sought by certain opticians as not being in the public interest, especially where power is granted to confer a license or certificate which may give even inferentially the right to use such titles as "Doctor of Optics," "Doctor of Optometry," "Doctor of Ophthalmology," "Eye Specialist," "Eyesight Specialist," which quasi-degrees mislead and impose upon the public as they do not necessarily indicate any skill and confer no professional privileges such as medical practitioners alone enjoy.

DEFINITION OF THE "PRACTICE OF MEDICINE."

The term "medicine" shall include any science, plan, method or system with or without the use of drugs or appliances, and whether now deemed to be included therein, or not, for diagnosing, prescribing for, preventing, alleviating, treating or curing human disorders, illness, diseases, ailments, pain, wounds, suffering, injury, defect or deformity affecting the human body or any part thereof, or its physical or mental condition, or believed or imagined so to do, including midwifery and the administration of anæsthetics; and the manipulation of any kind of treatment whatsoever suggested, prescribed or advised, for body or mind, administered to, operated upon, or followed by, the patient himself or herself, or in behalf of another person, intended or professing immediately or ultimately to benefit the patient.

Any person who shall attach to his or her name or shall use the title M.D., M.B., D.O., D.O.S., Surgeon, Doctor, Physician, Healer, Professor, Ophthalmologist, Oculist or Aurist, Eye Specialist, Eyesight Specialist, Doctor of Ophthalmology, Doctor of Optometry, Doctor of Optics or of Optical Science, Ophthalmic Doctor, Specialist, or any other letters, sign, or appellation in a medical sense, shall be considered as "practising medicine."

THE ONTARIO MEDICAL COUNCIL.

The Annual Meeting of the Council of the College of Physicians and Surgeons of Ontario opened on Tuesday, June 27th.

The new members taking their seats were F. R. Eccles, of London, and Dr. J. C. Connell, of Kingston.

The officers elected for the Council year 1916-1917 were:—

President, Dr. Edmund E. King, Toronto; Vice-President, Dr. W. E. Crain, Crysler, Ont.; Registrar-Treasurer, Dr. H. Wilberforce Aikins, Toronto; Solicitor, H. S. Osler, K.C., Toronto; Auditor, James F. Lawson, Toronto; Stenographer, George Angus, Toronto; Prosecutor, John Fyfe, Toronto.

The report of the Board of Examiners showed, that, in the Spring Examinations of 1916, there were in all one hundred and twenty-nine candidates, of whom eighty-eight passed, and forty-one failed.

Dr. W. Spankie, of Wolfe Island, and Dr. H. S. Griffin, of Hamilton, were appointed, as representatives of the college, for the coming four years, on the Medical Council of Canada.

Appeals, emanating from twenty-four candidates, who had failed at the recent examinations, were considered. Of these two only were entertained.

The question of the proper handling of drug habitués was referred to the incoming Executive Committee, with permission to bring it before the Royal Commission for consideration, if thought advisable.

The following motion, bearing upon the attitude which, in the judgment of the Council, should be assumed by the members of the College, in the matter of the carrying out of the provisions of the Ontario Temperance Act, was passed:—

“That, inasmuch as the Government has imposed upon the Medical Profession the working out of the Ontario Temperance Act, according to clause 51 of the Act, this Council desires to impress upon the profession at large the necessity of adhering to the Act with dignity and decorum, and that the registrar be instructed to provide the members of the College, with a copy of the clauses, and this resolution.”

The Council adopted the report of the special committee, appointed to consider the advisability of establishing a system of licensed midwives in Ontario. The report reads:—

“Conditions in the Province at this time do not demand a system of licensed midwives.”

The Council decided to request the Militia Council, to provide that Canadian Army Medical Corps Officers should “have rank and compensation, more in keeping with the services rendered.”

The report of the Education Committee, as adopted by the Council, provides, *inter alia*,

1. That the question of uniform matriculation standards be taken up, when the Canada Medical Council has issued its report on the same.

2. That the Fifth Year of the Medical Course shall be "wholly and exclusively academic."

3. That graduates in medicine of such foreign universities, as shall enjoy recognition under this College, will not be required hereafter to attend a full Winter Session of lectures and clinics in a Canadian medical College, before offering themselves for the College Examinations.

4. The Council acceded to the request preferred by Queen's University and the University of Toronto, that the present Summer Session shall be regarded as a full, academic year, the College to hold its usual Fall Examination, at the close of such Session.

The same examiners, as had conducted the Spring Examinations, were reappointed.

A special committee was appointed, to act jointly with similar committees of the Ontario Medical Association, and the Academy of Medicine, to approach the Government, with a request for such amendments to the Workmen's Compensation Act, as would, in the operation of the same, provide for reasonable compensation for services rendered by members of the profession, in cases coming under the operation of the Act.

The Council adjourned on Friday, June 30th.

TORONTO'S VITAL STATISTICS.

Just 660 maidens became brides during the month of June in Toronto, according to statistics published recently. The monthly average of births was down considerably, while the number of deaths showed a slight increase over the corresponding month last year. The comparative monthly records are as follows:

	June, 1916.	June, 1915.	May, 1916.
Births	1,040	1,212	1,104
Marriages	660	568	502
Deaths	486	436	591

The general health of the city is improving, according to the following figures:

	June, '16.	May, '16.	June, '15
Diphtheria	67	58	41
Scarlet fever	64	88	66
Typhoid	3	10	6
Measles	61	112	185
Smallpox	2	0	9
Tuberculosis	104	94	11
Chickenpox	84	57	58
Whooping cough	52	26	27
Mumps	10	5	65
Meningitis	5	6	5