

The Canada Lancet

VOL. XLVI. TORONTO, FEBRUARY, 1913 No. 6

EDITORIAL

THE TORONTO ACADEMY OF MEDICINE.

In the January issue of the Canadian Medical Association Journal there appeared an editorial on the Toronto Academy of Medicine. The article discusses the action of the Academy in the matter of the proposition to admit Prof. A. B. Macallum to fellowship in it.

The article contains a number of inaccuracies, and would, if unchallenged, put the Academy in a false position before the medical profession. We have neither the time nor the inclination to take up the statements in the article seriatim, as they do not appear to us to merit such an expenditure of thought or energy.

We are pleased to state in a very definite manner that there reigns in the Academy a state of perfect harmony. Every fellow is doing his utmost for its welfare. There is not now, and there never has been, any friction between the fellows who hold positions on the teaching staff and those who do not. The existence of a medical faculty has never, in the slightest degree, influenced the election of either a fellow or an officer. The Academy has a great work to perform and it is doing its best to achieve its high aim.

Its constitution was very carefully prepared and unanimously adopted. Every fellow, when elected, signs the roll in which he pledges himself to uphold the constitution. The constitution states that if there is no objection to a candidate the Council, if unanimous, may elect him. If there is any opposition, the name must be submitted to the fellows at a regular meeting, and one adverse vote in six rejects. When a fellow votes "yea" or "nay" he is only doing what the constitution empowers him to do.

Why so many of the fellows voted against Prof. A. B. Macallum we do not know, and it is none of our business to enquire. One thing must be granted, namely, that they did so from honest motives. The fellows look upon two sides of the question—the social and the scientific; and the Academy is for the promotion of both.

We do not think that the affairs of the Academy called for the intervention and advice of a journal whose head office is so far from Toronto. The Toronto Academy is now a powerful and progressive society and may be trusted to manage its own affairs. The Academy may be fully trusted not to do anything that "is not creditable to medicine in Canada."

There is one phase of this affair that we would recommend to the attention of the writer of the article in the association journal. Does he think that "the band which canvassed for uninterested voters" could induce so many of these to vote "nay" as did so on the occasion of the election? We would urge upon the editor of the association journal to keep in mind the personal equation in all such cases. The fellows of a society should not be condemned because a certain candidate fails to secure admission.

It is to be sincerely hoped that when the editor of the Canadian Medical Association Journal undertakes to lecture the Toronto Academy of Medicine on how to conduct its affairs he will take the pains to be at least correct in his facts. Any fair-minded person who reads the editorial will come to the conclusion that it was wholly uncalled for, and was entirely unjustifiable. The whole trend of the article is such as to make mischief. There is no faction fighting in the Academy. The constitution is a good one, the Academy is doing splendid work, it is steadily growing in wealth, numbers and influence. It does not require a lecture on good behavior from Montreal; and certainly would be more than justified in vigorously resuentering the recent attack made upon it by a writer in that city.

"With its head held high" the Academy goes on its way. We must inform our readers that the Academy is most careful to do all things strictly according to its constitution. It accords to every fellow his full rights. The Academy of Medicine is an organization of the medical profession in Toronto, where every fellow is on the same footing. In its ranks there is no such thing as medical faculty fellows, and non-medical faculty fellows. To intimate any such division is very wrong.

For the benefit of the Montreal critic of the Toronto Academy of Medicine we most respectfully commend the following:

Heat not a furnace for your foe so hot
That it do singe yourself; we may outrun,
By violent swiftness, that which we run at,
And lose by running. Know you not,
The fire, that mounts the liquor till it run o'er,
By seeming to augment it, wastes it.

It is our opinion that the writer of the editorial heated his furnace too hot and has singed himself; that he ran too fast and lost thereby;

and that he has wasted his liquor and drowned out his own fire by over boiling of his pot. We leave the subject for the present, again quoting from Shakespeare:

'Tis not the many oaths that make the truth,
But the plain single vow that is vowed true.

THE VITAL STATISTICS OF ONTARIO.

The report upon births, marriages and deaths for the Province of Ontario for the year 1912 is just to hand. It contains much useful information. The births numbered 57,235, the marriages were 25,807, and the deaths totalled 34,341.

As compared with 1910 there were 1,364 more births, 1,771 more marriages, and 802 more deaths.

The province showed an increase in population of 283,653 over that of 1910. Out of the 47 county municipalities in 27 there was a decrease in population. All the city municipalities, except Ottawa, showed an increase.

There were born 29,607 males and 27,628 females. There were 2,463 still-births. This gives 107 males to 100 females. The birth rate per 1,000 was 22.6. The birth rate in the cities was 25.8 per 1,000. There were 622 pairs of twins and 6 triplets. In the twins there were 632 boys and 612 girls. In the case of triplets there were 7 boys and 11 girls.

The marriage ratio was 10.2 per 1,000 of the population. In one district the ratio was as high as 21.1. The returns show a tendency to an increase in mixed marriages.

Th deaths, 34,341 in all, gives an average of 14.4 per 1,000 of the population. This gives an average expectancy of a little over 69 years in a stationary population. This is too high, and goes to show that there is a steady inflow into the province of young people, among whom few deaths are occurring.

The causes of death are worthy of attention. Organic heart diseases, 2,433; tuberculosis, 2,353; cancer, 1,602; pneumonia, 1,568; infantile diarrhoea, 1,367; cerebral haemorrhage, 1,015; diseases of the arteries, 985; Bright's disease, 814; typhoid fever, 637; paralysis, 538. These are the major causes. It is interesting to note that tuberculosis fell from 148 per 1,000 in 1910 to 93 in 1911. In 1881 this disease caused 10 per cent. of all the deaths; in 1891, 11 per cent.; in 1901, 11 per cent., and in 1911, only 6.85 per cent. The infant mortality is still high, as 6,421, or 11.72 per cent., died under one years of age. Of the mortality among children under 5 years no less than 77.97 per

cent. was under one year of age. The deaths from typhoid fever in 1911 numbered 637. This is high for this disease. During the past ten years the province has lost 5,796 through this disease.

THE 17TH INTERNATIONAL MEDICAL CONGRESS, 6TH TO 12th AUGUST.

This gathering promises to be one of unusual interest and importance. The attendance will be large, the papers valuable and the social side of the meeting will lack in nothing that could appeal to the imagination.

The work of the Congress will be carried on in 23 sections. It will thus be possible for every one to find a suitable section, and one that will meet his wishes and fall in line with what he is mostly interested in.

Those who think of going will be making their arrangements at an early date. This will prove a most interesting summer in Britain. The British Medical Association meets this year in Brighton, and the presidential address will be delivered on 22nd July.

This gathering will just be nicely over and allow visitors a short time to look around before the International Congress commences its sessions on 6th August.

These two meetings should attract many from this country. Canada in many respects looms large at present in the British eye. It would be well if it sent over a good representation this year of those who care for the health of the people.

The local committees, both for the British Medical and the International, are hard at work planning ways and means of giving everyone a good time.

THE CASE OF DR. A. W. STINSON.

It will be remembered that Dr. A. W. Stinson's name was removed by the Medical Council of Ontario from the medical register. Dr. Stinson appealed against this action.

His case was heard by Justices Falconbridge, Riddell and Britton. The court held that the Medical Council had proceeded irregularly, and ordered that that body reconsider the case. This action on the part of the court will make it obligatory on the part of the discipline committee and the Medical Council to deal with the case at its coming meeting.

THE DUCHESS OF CONNAUGHT'S ILLNESS.

The exact nature of the illness of H.R.H. the Duchess of Connaught we do not know. The announcements made to the public stated she was suffering from an attack of peritonitis. This does not, however, convey much information.

The pleasing part is, however, that she is steadily recovering. In this every citizen of Canada takes pleasure. As the foremost lady in the land she has made herself personally popular with all classes. We hope that her health may now remain satisfactory, and that nothing many occur to mar the enjoyment of her stay amongst us.

THE NATIONAL SANITARIUM FUND.

All must feel a sense of pride at the result of the campaign for \$1,000,000 for the National Sanitarium Association for the prevention and treatment of tuberculosis.

The large sum aimed at has been attained. A number of very generous gifts were turned over to the committee. The largest personal gift was from Lord Strathcona, who gave \$100,000. The city of Toronto voted \$200,000.

This large sum will enable the association to go ahead with renewed energy, and great things may be expected.

TORONTO HOSPITALS.

For some time past there has been a good deal of agitation over the proposal to close up the old General Hospital. A number of fraternal societies have been active in demanding a municipal hospital.

But this would lead to a number of new conditions, some of which would not be desirable. In the first place, the city would have to advance a large amount of money at once to purchase the old General and the grounds. Then the annual maintenance would prove a serious question.

The question of most importance, however, would be the effect of such a movement on clinical teaching. If the city owned a hospital, the demand would be made that doctors be allowed to attend their own patients, however poor these might be.

Patients sent into the municipal hospital would be attended by the practitioner who sent them into the hospital. This would have the effect of hampering clinical teaching very seriously, as many cases that should be used for such purposes would pass beyond the control and care of those engaged in instructing the students. This should be very fully considered before the Council does anything that would impair Toronto as a medical educational centre.

THE MEDICAL PROFESSION IN BRITAIN.

What was expected by many has now actually happened, namely, that the Government would win, and that the national insurance scheme would go into operation.

The medical profession has itself to blame for being worsted in the contest. When the vote was taken by the British Medical Association as to the attitude of the profession on the Insurance Act, the vote was 5 to 1 against accepting its terms. But not quite half of the entire profession voted.

The unpolled vote was the crux of the situation. It was claimed that there were at least 10,000 doctors who were unpledged and willing to accept the terms offered by the Government. Others would follow.

It might be argued that the best doctors would not act, and the insured will receive an inferior sort of attendance; but time will, again, remedy this. If the Government can once put the Act in operation, the rest will be cured by time. The executive and officers of the British Medical Association have decided to release the doctors from their pledge against the Act. The whole difficulty has come upon the British medical profession because it catered to cheap lodge practice.

DOCTORS OF OPHTHALMOLOGY.

Such is the title of a circular that was distributed in Toronto a short time ago. In it the statement is made that such practitioners "earn \$2,000 to \$10,000 a year." Then we are told that the gateway to this is to be found open to all who are "seeking knowledge to hold, which means power, influence and wealth."

It is stated that there is no need to spend "3 to 7 years of hard application in grinding in knowledge, much of which is never utilized in practice." There is no need to devote years of your time to learning a profession that is at present over-crowded." "Money, social position and wealth awaits those in this field who diligently pursue the practice of ophthalmic science and restore the blessing of sight and health to their patron and patients." "The college has by affiliation special privileges from the Government for the teaching of this wonderful science in all its completeness, and they that enter now reap the greatest reward."

In such terms as these we are informed that at 358 Queen Street West, Toronto, Canada, one may find the Royal College of Science. A scale of fees is given. The cash price for four weeks' attendance is \$50 for the optician's course. The doctors of Optics' course is one of twelve weeks and costs \$100. The doctor of optometrics' course is twenty weeks and the fee is \$150. The doctor of Ophthalmology course

extends for forty weeks and can be had for \$200. Each of these courses can be conducted by correspondence and can be had for half the above fees.

We ask our readers to specially note the statement, "The college has by affiliation special privileges from the Government." When so much can be done by the Government in this way, it might be well to create several more colleges, as subsections of medicine.

But the Royal College of Science gives courses in nursing. General nursing, 12 weeks, \$100; obstetrical nursing, 6 weeks, \$50; massage nursing, 6 weeks, \$60; electro nursing, 12 weeks, \$100; public school nursing, 6 weeks, \$50. "The course of instruction fits all kinds of nursing; it can be completed in months, instead of years, and taken by correspondence by those engaged during the day."

"Fifteen to forty dollars a week is the general report from the Red Cross nurse."

We must stop or the members of the medical profession and the nurses trained in our hospitals will wish they had never heard of a medical college or a general hospital. The long years of training at the bedside is so tedious and so hard compared with this short cut to the promised land of "power, influence and wealth."

THE CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

This association has been the means of doing much for its members. Many a lawsuit have been prevented by it. Its influence in this regard cannot be overestimated. It has now been in existence for eleven years. It has now a cash balance of \$8,659. Through its able legal council it has won in the courts a goodly number of actions for its members. To all that it means we say, *Felix faustumque sit.*

An application is being made to Parliament for an Act of incorporation. This should be granted without hesitation.

A DEPARTMENT OF PUBLIC HEALTH.

We have on all occasions urged that a Department of Public Health should be formed in Canada. It is with more than usual pleasure that we announce that active steps are to be taken at this session to pass such a measure. By this change all matters of public health, now coming under the control of the Federal Parliament, shall be placed under one responsible head. This will mark a new era in the national life of this country. *Salus populi suprema lex esto.*

PUBLIC HEALTH.

In centuries gone by when an epidemic visited a country, the people were helpless, and had nothing better than to appeal to some superstition, and offer some oblation to a supposed offended deity. These were dark days in medicine. A piece of red flannel was suspended in the room of the sick person as a cure for smallpox; or, the touch of the King was sought as a remedy for scorfula; or, the intervention of the seventh son of the seventh son was held to be all powerful against many of man's ills.

But a day came when it dawned upon the mind of man that on rational grounds many diseases must spread in the air or in some mysterious manner. Thus it was that such names as influenza, epidemic, etc., came to be used. By many there was supposed to be something in the air, or rising from the earth, telluric, that caused the spread of certain afflictions.

But a closer range was taken with disease when certain minute organisms were found in association with these diseases. This was the great work of the laboratory men. But the laws of growth and spread of these organisms had to be sought, and nature had to be made to give up her secrets. With this knowledge came the necessity to take measures to arrest the spread of infection.

But this would lead to the interference with what people call their personal freedom. On this score very many are very sensitive and resent any restrictions being placed upon their movements, or that any one else should know what is transpiring in their homes. This will induce them to conceal a case of infection that may appear in their midst. If the case is mild nothing is said about it.

The dislike to placarding homes has been the means of causing much concealment of the existence of cases of contagion. If one takes the statistics of a country where there has been in existence for a number of years a law demanding the reporting of all cases of contagious diseases, and study these statistics, he will be surprised that the death rate has not been reduced. This means that the sickness rate has not been lessened.

A little leaven stirreth the whole mass, and a few mild cases spread the disease. If good results are to be attained a fee should be paid for reporting cases. Unless the mild cases can be reached, the spread of infection cannot be controlled.

TYPHOID FEVER EPIDEMICS.

The Commission of Conservation for Canada has recently issued a report on the two epidemics of this disease which occurred in Ottawa.

The report was prepared by Dr. Charles N. B. Camac, of Columbia University, New York. He is well qualified for this work and what he has to say should carry weight.

He remarks that typhoid fever is a preventable disease, and that its mode of spread is among the best known of medical truths. Where proper measures are carried out the disease does not appear in epidemic form.

The germ is transmitted in the following ways:

1. By those who have the infection in their bodies, but remain in health, and so spread the infection wherever they may journey typhoid carriers.

2. By those who are infected and somewhat ill, but are still able to go about. These are the ambulatory cases.

3. Those who have had the disease and have recovered, but still retain the infection in the intestinal canal.

The disease appears in sporadic or epidemic form. The former is generally due to a person contracting the illness when away from home and returning become ill. The epidemic form occurs when there is some common source of infection that acts simultaneously on many persons at the same time. Dr. Camac states, "The two outbreaks through which Ottawa has passed were caused by the commonest and best understood of all the causes of disease—namely, the contamination of drinking water by sewage."

"To prevent typhoid fever two things only are necessary—two things long recognized as essential to the health of any community—pure water and proper drainage." In these words Dr. Camac lays down what must be done. He then points out what it costs to train naval or military officers, and asks why should not money be spent in training health officers? Much money is expended to fight an imaginary enemy, and very little to fight real ones in the form of epidemics. An epidemic such as that of Ottawa is a national menace and may spread the disease to great distances.

ALOPECIA AREATA.

In children keep hair very short; not necessarily in adults. Wash entire scalp weekly with tar soap. Every day rub in following stimulating preparation: Aquæ ammoniæ, gr. lxxv (20 Gm.); olei terebinthinæ rectificati, fʒv (20 Gm.); spiritus camphoræ, fʒv (150 Gm.). Where seborrhœic lesions simultaneously present, use following ointment: Balsami Peruviani, gr. xv (1 Gm.); sulphuris præcipitati, gr. xxx (2 Gm.); olei cadini, ℥lxxv (5 Gm.); olei amygdalæ expressi, fʒvj (25 Gm.); olei theobromatis, ʒiiss (10 Gm.).—*Sabatié*.

ORIGINAL CONTRIBUTIONS

THE PSYCHIC EFFECTS OF ACCIDENTS.

TOM A. WILLIAMS, M.B., C.M., EDIN., WASHINGTON, D.C.

Correspondence Member of Neurological Psychological Societies, of Paris, etc.,
Neurologist to Epiplancy Dispensary.

THE mental confusion or concussion or compression the result of a blow are psychic, but not psychogenic. So they will not be considered here. They are, however, sometimes the source of the false ideas called "posttonic," which must be considered autosuggestions. The mental obtusion produced by a blow, moreover, exalts the suggestibility. This is too obvious to need further comment.

The emotion excited by an injury perturbs of the apparatus of internal secretion. An accident short of lesion may create in a susceptible person so great a fear as to cause a sudden increase of secretion by the thyroid gland. But that the thyroid secretion is not the only one modified by emotion has recently been shown by a brilliant research by Cannon. He has shown that the emotion of fear in animals is capable of stimulating the flow of adrenal secretion. He demonstrated that in frightened animals the blood from the adrenal vein is so rich in adrenal substance as to be capable of inhibiting peristalsis in an isolated strip of intestinal muscle. This is due to the presence of the adrenal substance in appreciable amount since contact of the latter with the intestinal strip in a 1,000,000 solution, will also inhibit peristalsis.

We know that the emotion of fear could inhibit gastric secretion; and Pawlow has shown that certain emotions of anticipatory joy can induce a flow of this secretion. While it lasts, the fear state presents marked physical symptoms. It does so through the intervention of the autonomic nervous system which can not be controlled directly by volition except in rare cases and those only after much practice.

A simple case is described by Babinski, and which I observed in Paris in 1907. This timorous young girl, without practice in control, was so apprehensive of the pin scratch used to elicit the plantar reflex that she involuntarily drew up foot and leg at the approach of the pin, and then occurred pilomotor contraction upon the skin over the upper and outer part of the thigh overlying the muscles which contract in the defence reaction when one strokes the sole. The patient could not control this response in any way.

Psychogenetic Factors in Modifying Ideas, Feelings and Acts.—But the benign eventuality is often interfered with in human beings by the property they possess of reviving in memory the ideas which clothe situations with horror, apprehension, anxiety. Especially prone to this

damaging sequence are persons whose imagination has been made rampant by the cultivation of the credulous fears of childhood. Their fear reaction to that which they do not understand is a dominant one, and they are easily beset by an idea linked with fear. The commonest of the fears which result from accident or injury is that of bodily harm. It is very hard for a person of this type, when ignorant of his own structure and functions, to shake off the foreboding created by catastrophe, and it must not be forgotten that what others regard as trifling the victim may look upon as catastrophe, judged by its possible effect on him.

Prepossession by the idea of one's own disability is an inevitable consequence. This leads to abstraction from and inattention to the affairs of ordinary life, which, if not trifling by comparison in the patient's mind at least, cannot claim the attention properly needed. Hence ensues the well-known diminution of the capacity to think, work or take part in social life. This incapacity, when the patient becomes aware of it, leads him to still further accentuate the result of his injury and thus to augment his alarm about his health. Thus is constituted the vicious circle of hypochondria. Even a nosophobia may ensue, such as the fear of lost manhood, insanity, paralysis. Alarm at this impending disaster must, of course, be distinguished from the primary alarm due to the accident itself.

The next step in the drama is the reaction against the actual absence of physical signs of injury and the reassurances of medical men. This takes the form of an unconscious search by the patient for his belief that he is indeed damaged. Hence arises the familiar exaggerations and falsifications of symptoms. These are made in perfect good faith and honest belief; but they lead to the simulation of disease pictures previously in mind or acquired in the course of the disorder.

It is only after the patient begins to be convinced in his heart that he is mistaken that there ensues the deliberate self-deception of the desperate effort to preserve the respect of himself and his friends that he feels he would lose by admitting the absence of physical disorder after all.

By this mechanism may spring what Brissaud called *sinistrosis*, the desperate determination in sickness against all conviction of error. Even a favorable settlement of a lawsuit may not remove this attitude. Only skilful psychotherapy will do so, and in severe cases considerable time must be allowed to wear down the sinister habit of mind.

The Trauma is not Psychopathogenic.—In themselves neither trauma nor emotion can produce *sinistrosis* or traumatic hysteria. The real factor is the ideational complex in the patient's mind. It is the idea he has of the consequences of his accident and not the emotion of

the accident itself which maintains his abnormality. The psychological mechanism at work may be termed suggestion. Its modification is the same whether there is an accident or not. Illustrations may be found in the following cases:

Hysterical Prurigo.—A girl aged nine came to the dispensary on account of itching of the right face. Her frequent scratching had kept up a pityriasis. This had begun two years before after her father had for some weeks suffered much from furuncle, when he had itched all over, scratched much, and spoken of it a great deal. He still does so when he eats pork, thinking that it makes him itch. The little girl had only one boil on her right heel, and this she feared to scratch. It does not appear that the child's face had really been diseased; but I believe that the eruption was kept up by a morbid impulsion; so I prescribed sulphur ointment with the object of inculcating belief, impressed upon mother and child the need of never touching the face, and assured them that the itching would totally disappear in two weeks, which prediction was verified by the result.

Hysterical Typhlitis After Appendectomy.—A girl of twenty was seen with Drs. Watkins and Stavely because of recurrences of right iliac pain with nausea and vomiting, but normal temperature and pulse, since three months. Two months before, the appendix had been removed for similar symptoms, and found little changed, though containing a concretion of lime. At the time the ovaries and gall bladder were found normal. The pains recurred every few days, and lasted some hours, and were relieved by morphine or the Sootch douch. Examination showed only a psychogenic hyperæsthenia in the right iliac fossa, controllable by indirect suggestion. Some sacral atonia, a slight retroversion and intestinal sand could not explain a manifest psychogenic tenderness. After being convinced that a determination to conquer a longing for the comfort and anodynes which sickness brings would cure her, she went back to her home, and remains well.

Litigation Not Itself the Cause.—It has been stated that a lawsuit is necessary to create traumatic hysteria. That this is not so is shown by the following case, where the idea of entire disability was created by the presence of a partial disability due to an accident and was very simply removed by psychotherapy without question of indemnity.

An Incapacitating Hysteria Engrafted Upon a Haematomyelia of the Right Hand and Arm Segments Resulting From an Accident.—A man of 20, apprenticed machanist since the age of 16, was seen with Drs. Conklin and Lewis Taylor in June, 1911. Two years before he had dived to the bottom of a creek. The concussion which ensued kept him in bed with severe headache and unable to move for three days. Urinary incontinence lasted one day. He vomited at first. For nearly

a year he was unable to walk without severe staggering, and his speech had been very difficult, and still remained slow. He complained also of great sleepiness, and difficulty in holding his water; so that he was quite unable to go to work, more especially as the right hand was partly paralyzed, and he feared that what he knew to be an organic and nervous disease might be aggravated by exertion. There was loss of sexual power. The boy was normal with the exception of the following abnormalities:

Reflexes.—The right plantar was absent, but there was inversion of the foot on stroking the sole. The right triceps was diminished.

Motility.—There was weakness of the extensors of the third, fourth and fifth digits of the right hand to an extreme degree. The opposition of the thumb was not quite so weak. The grasp of the hand and flexion of the wrist were relatively stronger. The adduction of the wrist was strong, the adduction of the fingers was quite weak. There was no other distinguishable weakness of the forearm.

Sensibility.—He complained of a perpetual tingling down the right leg, which occurred with each beat of the heart, night and day, except during sleep. But there was no difference on the two sides in the perception of coolness and warmth, and the sense of attitudes was now normal, although he stated that for two months he was unable to recognize the position of his limbs. But I could not satisfy myself that he really felt less intensely as he alleged, on the right leg when stimulated by the tuning fork and the point of a pin; so that this hypoesthesia might have been suggested during my examination. A suspicion of its psychogenic nature was corroborated when I found that although he declared he would sway when he closed his eyes, he did not actually do so when his balance was deprived of the assistance of his vision while I pretended to be examining the eyes.

Diagnosis and Prognosis.—The abnormalities of the reflexes, motility, and subjective sensibility, as well as the slow speech and difficult retention are due to organic changes, very probably hæmatomyelio, resulting from the blow on the head in diving; they are not amenable to treatment, but they are by no means incapacitating; for even the grasp of the right hand was fair and the right thumb could be opposed so that he could handle a tool. The prognosis as to efficiency was therefore good.

Treatment.—Accordingly he was explained the organic nature of part of his difficulty; he was also told that the disease was not progressive, and would not be exaggerated by work, which would, on the contrary, improve him in every way, and very likely rid him of his heavy feelings. I recommended him therefore to begin work, and behave as if he were quite well. This he did, with the result that he continued

at work, and is in excellent condition at the time of writing, six months later.

No commentary should be needed to show that this boy's idleness proceeded not from actual disability, but from the ideas which he and his people had regarding his condition. He was the victim of a falsified idea that he was gravely ill, and this suggestion was the cause of his incapacity when I saw him; while the organic destruction of the central nervous system had at that time no direct significance in that respect.

The Treatment is, as appears, rational knowledge of genesis, and proper re-education of the patient's viewpoint by a profound understanding of his psychology. Assurance is useless without this knowledge. Indeed, rapid encouragement only antagonizes the patient. Honesty is the best, the only, policy. The following case clearly illustrates the procedure:

A railway brakeman was thrown by the giving way of a stirrup while his train was travelling about ten miles an hour. He fell on the small of his back against a bank of earth, rolled over two or three times, and lost consciousness for over half an hour. After crawling about half a mile he was found. He felt sick all over, and brought up blood, which also came from the bladder and bowels, only that day, however. After reaching his home town, he was assisted to his house, one and a quarter miles away. He did not sleep that night, but rested the next morning. In the afternoon he became restless, an itching pain occurred in the back and lasted several days. He was up and about with a crutch in fourteen days, but shortly afterwards he lost the use of his legs, having to move them with his hands, but he walked about on crutches, though he felt faint after progressing two and three squares. On account of anxiety and want of means he soon after went to live with his mother, his wife going to her father. When questioned, he replied, "Well, yes, I missed her," but he stated that he was too preoccupied with his health to care much. About three months later he was able to hobble with a stick only, but varied from day to day in his power to do so.

He said he felt a buzzing and severe pain in the head as well as worried much over his position and circumstances, and the dependence of his wife, and in being unable to help her and his mother, who was an invalid with a younger boy to take care of. (He wept while relating this.) He never worried before his accident, but now he could not help it, for though he was owed \$225 by an accident insurance company, they would not pay him anything. He did not know what to think about his health, for though the railroad doctor upon seeing him after the accident declared he would soon recover and be able to work,

he had lost over twenty pounds in weight, had become very weak, had sore throat and capricious appetite and sallow skin, and wept nearly every day. Moreover, about ten days after the injury, two other doctors, called in by his family, each said independently of the other that he had a congestion of the spine, which, though probably temporary, might last a lifetime. He had a very severe "fainting spell" one day after a cold; but when interrogated he confessed to having eaten a large meal of sweet milk and cold slaw, and this was the only occasion since the accident upon which he had actually vomited, though he had often had a dull sick feeling when overheated. He wished he had never seen a railroad, "meaning nothing detrimental to anyone but myself."

He had employed attorneys who were bringing a claim against the company; he had asked for \$2,500 and employment, and had received much sympathy from his friends. When asked his object in this, he replied: "I will be frank with you and all. I was looking forward to promotion. It was no fault of mine that I was injured; if it had been, I would have said nothing. I merely ask for a sum of money and a job I could do. I could get around and do a job I could do, but I would never run railroad again; for in catching a box local, it means heavy weights all day, and I cannot gain promotion except through this." He thought he might do office work, though he dreaded it; for outdoor work suited him better than the confinement of bookkeeping; besides, a good brakeman could make a hundred dollars a month.

Upon examination, I found the tendon reflexes equal on the two sides and neither exaggerated nor unduly feeble. The cutaneous reflexes were all unusually active with the exception of the planter, in which, however, the toes distinctly flexed upon several occasions, until inhibited volitionally. When I distracted his attention, flexation again occurred. Sensibility: A pin prick on the lower limbs is called a punch; cold steel is called warm, and the diacason is felt only when in full vibration. Cotton wool is unfelt in front as high as the groin, and behind as high as the iliac crest on the right side, at first; but after the left side had been examined and found insensitive only as far as the gluteal fold, he confessed to feeling the wool on the right buttock also. When asked to say when he did not feel the wool, he said "no" the first seven times he was touched on various parts of the lower limbs, later ceasing to reply. The gluteal esthetic boundary varied by about two inches at different examinations. In the lumbar region, he was bilaterally hyperesthetic in a two-inch zone, shading off below and sometimes extending onto the buttocks. Posteriorly, the upper border of the zone corresponded to D. 12 and L. 1; laterally to D. 10-11, and anteriorly to D. 8-9.

The motor power was good. When he attempted to use the legs alone, he strongly tightened up the antagonistic muscles; but when his attention was diverted he could maintain powerful extension at the knee, even on the left side, though he declared himself weak there from an old dog-bite. Babinski's combined flexion, and Hoover's and Zenner's tests were all negative. The pupils are equally dilated, and respond promptly and vigorously to light and accommodation, but no pain reflex could be elicited. There was no loss of memory or other intellectual defect, although the effectivity was perturbed as described.

It should be evident that the incapacity of this man arose from the fixed idea, very probably inculcated after the accident by his friends, although contributed to largely by the common belief of railroad employees, that an accident can induce serious nervous disease. The doubtful prognosis of the doctors, evidently unskilled in neurological diagnosis, strongly fortified the man's belief and consequent anxiety. The anesthesia, produced by previous medical examinations, might have deceived an inexperienced observer; but the wool test, which not only previously been performed as I performed it, quickly revealed not only an "uneducated" line of demarcation, but demonstrated that the man did feel by the very fact that he said he did not. Of course, even had I not succeeded in thus demonstrating the incongruity of the syndrome with the neuropathology of the spinal cord, the complete conservation of all the reflexes was sufficient to show that the anesthesia did not arise from disease of the spinal cord.

The diagnosis, then, was hysteria, the psychic elements of which were clearly revealed in the foregoing history. The prognosis given was favorable; but I first explained to the patient and doctor separately the real genesis of the disorder, showing the former the effects of worry and anxiety upon bodily nutrition and the rôle of ideas over bodily activity.

The treatment I recommended was the re-establishment of good nutrition, regular exercise, a removal of grief and worry by the assurance of a reasonable compensation for the anxiety and loss he had suffered (for though his ideas were erroneous, and he was in one sense of the word a simulator, he was so unconsciously, and because of the environmental beliefs he had acquired), and the declaration that by following my treatment he would be capable of moderate work in a few weeks, and in a short time would be entirely restored to health.

Being asked for a certificate, I gave the following to both patient from a condition of incapacity for free walking or mental or physical work from the effects of a fall from a brake car (as I am informed.) This state is induced, as a result of the aforesaid accident, by the worry, anxiety, and loss of means directly caused thereby. I believe that by

appropriate treatment he could be restored to a certain extent within one month; and that within three months he could be fully capable of pursuing any laborious avocation he chose. He is, however, at present in too low a state to be capable of long, continuous labor, even though the incapacity of his limbs were immediately removed. There is, and has been, no disease of the spinal cord or peripheral nerves at play in the induction of any of the symptoms which I find. The erroneous belief that there has been such an injury powerfully contributes to the anxiety which maintains his present state."

As to the outcome, a letter from the doctor a few days ago stated in reply to my query: "We compensated V. by a sum of six hundred dollars, and he went back to work in time just as you predicted. *Naturam morborum ourationes astendunt.*"

The replacement of this morbid feeling tone by another, cannot be direct, but must be accomplished by replacement of the causative idea by another, and this is what, in deed, the psychotherapist does in the gastric neurosis. But in traumatic cases the ligigious element prevents this; for the patient is suspicious of every one who does not accede at once to his fixed idea that he is incapacitated, and the medical men as a whole are not noted for the psychological finesse required in approaching such cases. Hence, access, even if gained, is quickly lost, except by the medical men whose belief concords with that of the patient, and these, believing as falsely as he, are as helpless to cure him.

It must be remembered, too, that mere affirmation may prove a very poor appeal; for a cold, intellectual acceptance is not enough to change an attitude of mood which has been assumed for any considerable time. Intellectual acceptance must entrain immediate action, whether emotional or not; for the whole bearing of the patient's mood must be orientated towards a desired idea—that of disappearance of the hurtful idea—emotion complex. Thus, I obtained the active consent of my patient, and he was invited to dine with his doctor that night, made to feel optimistic, and then taken home and the settlement clinched at once.

It is clear that the return of this man's functional capacity was the result of the enlightenment and skilful persuasion he received during our interview, seconded by his physician, who saw that immediate action followed an intellectual conviction which might not have been maintained against the counter suggestions he would have gain received in the environment of invalidism which had grown up around him. It must be remembered that patients with a fixed idea become aboulie where other matters are concerned. Thus, Brissaud remarked of a patient who went into a fit when they gently attempted to extend the contracture of a limb which had lasted five years since the railway

accident. "This contracture is my life." Misonesism, the impossibility of adaptation to unusual conditions, is common enough, and its intensity is proportional to the length of time during which the mental habit has persisted, as well as to the affection, so to speak, with which one's habit or defect has been cherished and the age at which they have been acquired, and in such persons conviction soon becomes inert if allowed to sleep.

1785 K. Street, N.W.

TREATMENT OF DIFFUSE SEPTIC PERITONITIS.*

BY HERBERT A. BRUCE, M.D., F.R.C.S.

IN 1880 Mikulicz operated for the first time upon a perforating gastric ulcer, and suggested the possibility that laparotomy might be beneficial in diffuse perforative peritonitis. Lawson Tait, in 1883, and Leyden, in 1884, also recommended operative treatment, but in spite of this Schlangé, van Bergmann's assistant, in a paper published in 1884, strongly emphasizes the inadvisability of laparotomy in the treatment of the condition. In 1886 Krölein advised immediate operation in perforation peritonitis, and expressed the opinion that, in view of the uniformly unsatisfactory results of medical treatment, recovery in one case out of many would warrant the adoption of surgical measures, but the first statistics of operative treatment of peritonitis were published in 1890, when Stühler, or Strasburg, collected 78 cases of drainage of the peritoneum.

A little more than twenty years ago recovery from diffuse septic peritonitis occurred only in exceptional cases, a diagnosis of peritonitis was practically equivalent to a sentence of death, and as a rule operation only accelerated the fatal termination. Scarcely any other disease can be mentioned, the mortality of which has been so greatly reduced by changes in treatment, and there is no doubt that great progress has been made in the treatment of all forms of peritonitis, more especially during the last ten years. Ten or fifteen years ago operation was undertaken only in cases of diffuse peritonitis in a very advanced stage, already complicated by toxemia, in which the prognosis was therefore hopeless. Improvement in methods of diagnosis has resulted in patients coming under the observation of the surgeon at an earlier stage of the disease, in many cases within a few hours after the onset of the symptoms. The extensive experience of a large number of surgeons has conclusively proved that a rational operation, undertaken at an early stage, when the condition is still comparatively localized, will

*Abstract of paper read at the Toronto Academy of Medicine, 7th January.

save many lives. There is up to the present no effective medical treatment of diffuse peritonitis, and the general reduction in mortality shown by recent statistic indicates that the advances in modern surgery have rendered recovery possible in a condition which was formerly regarded as practically incurable.

The most common form of septic peritonitis is that associated with disease of the vermiform appendix, and the increase in the knowledge of the pathological anatomy and symptomatology of appendicitis has therefore greatly contributed to the reduction in mortality. The next cause in order of frequency is perforation of ulcer of the stomach or duodenum, the prognosis of operation in both these and the appendicular cases being fairly good. Other conditions which may result in peritonitis are perforation of the intestines or gall bladder, typhoid perforation, wounds of the abdomen involving the digestive tract, and infection extending to the peritoneum through the Fallopian tubes.

The most severe forms of peritonitis are those associated with spontaneous or traumatic perforation of an abdominal viscus, and that originating from the appendix, both of which rapidly become generalized. In regard to gonorrhoeal peritonitis a distinction should be made between that due to rupture of or leakage from a sterile pyosalpinx, and that due to rupture of a pyosalpinx containing active gonococci or streptococci. We then have an acute, virulent, diffuse peritonitis, due to leakage from a tube recently infected by the gonococcus.

If in a case of acute gonorrhoeal peritonitis there is no improvement in the general and local conditions in the course of a few hours, operation should be undertaken without delay.

In considering the prognosis of peritonitis resulting from perforation of the gall bladder, which is usually assumed to be extremely grave, a similar distinction should be made between that due to perforation of a gall bladder, the contents of which may be regarded as sterile, and that originating from perforation of a gall bladder containing pus. The former is comparatively benign, whilst the latter is an extremely malignant and dangerous condition. Another factor which influences the prognosis is the fact that the bile appears to exert an unfavorable influence upon the serosa, considerably reducing its capacity for resistance to the invading micro-organisms. The same may which the peritoneal serosa exhibits severe changes.

Surgery is the only treatment for typhoid perforation peritonitis. Unfortunately the diagnosis can very rarely be made before perforation, but an operation at the earliest possible moment after its occurrence will save the lives of many patients. Forbes Hawkes is of opinion that mortality would be considerably reduced if operation could invariably be undertaken within two hours after perforation.

As regards the peritonitis due to wounds of the abdomen involving the digestive tract, Siegel states that operations done within the first four hours have a mortality of 15.2 per cent., in from five to eight hours, 44 per cent., in from nine to twelve hours, 63 per cent., and after twelve hours 70 per cent.

I should like to refer briefly to pneumococcal peritonitis, which is a very rare condition, and may be primary or secondary. In this variety of peritonitis it is advisable to delay operation until an abscess has formed. The treatment then consists of incision and drainage.

The variations in the application of the term "diffuse septic peritonitis" have led to much confusion. The results of pathological investigations indicate that in acute infection of the peritoneum general diffusion of the exudation throughout the peritoneal cavity rarely occurs, and that in such cases, more especially those associated with perforative appendicitis, the internal organs, with their ligaments and mesenteric attachments, tend to prevent and delay extension.

Formerly we were accustomed to hear of post-operative peritonitis, but this should never be allowed to occur. Scrupulous attention to technique, and above all the covering of the hands of the operator by rubber gloves during operation, has added greatly to the safety of peritoneal operations.

It may be interesting here to mention that De Paoli and Callisti claim that they have considerably improved their operative statistics by the injection of nuclein of soda thirty-six to forty-eight hours before the performance of laparotomy.

To prove that this is unnecessary I may say that I can give a series of more than three hundred laparotomies done for various abdominal conditions, exclusive of disease involving the gastro-intestinal tract, without a death, and without any precautions other than careful attention to technique.

Mortality has recently been very much reduced by the early recognition of appendicitis, which is the most common cause of peritonitis, and the removal of the appendix before the inflammation has extended to the peritoneum. In the rare cases in which the onset of peritonitis is coincident with perforation of the diseased appendix, disease of which has previously been latent as regards the production of symptoms, operation should be undertaken before inflammation of the serosa becomes very severe and extensive. I should like here again to emphasize the importance of a very rapidly performed operation. A diagnosis of the probable cause of the peritonitis should be made before the commencement of the operation, and during the operation it should be removed as promptly as possible.

All surgeons and the majority of physicians are now agreed that operation is invariably indicated in all cases of diffuse peritonitis. The only exception to this rule is pneumococcal peritonitis, in which, as previously stated, it is advisable to wait for the formation of an abscess. If no contra-indication is present laparotomy should be undertaken without delay in all cases in which diffuse peritonitis is suspected, even if pus cannot be demonstrated.

A very important factor in the prognosis after surgical intervention is the defensive reaction of the peritoneal serosa, which renders it possible for it to deal with a considerable amount of septic material. Prognosis is also obviously more favorable if operation is undertaken before the onset of toxemia, and before the resistance of the patient is seriously impaired. Rutherford Morison states that the prognosis is good if the heart is strong, the pulse of good volume and not over 100, but that it is invariably bad if cyanosis is present, the extremities are cold, and the pulse is over 120.

There has recently been a considerable amount of discussion as to whether all cases of peritonitis, without exception, should be operated upon or not. Some are of opinion that if there is little or no hope of saving the life of the patient relief of pain only should be attempted, whilst others maintain that it is absolutely impossible to be certain that recovery may not follow operation, even when a patient is apparently moribund. It must be said that there are cases of ultra-septic infection of the peritoneum in which operation is practically useless. These cases run a rapid course, and the defensive reaction of the peritoneum is so slight that they may be described as septicemia rather than peritonitis. Even in these desperate cases, however, operation is indicated if it represents the only chance for the patient, in spite of its almost invariable fatal results.

Increased simplicity and rapidity in operation have undoubtedly greatly contributed to the reduction in mortality. Twenty years ago extensive flushing and evisceration were practised, the mortality being from 40 to 50 per cent., but it is now unanimously agreed that these severe methods of treatment have had their day, and are contra-indicated.

Technique.—As regards the incision, if a diagnosis has been made, it is, of course, made over the site of the primary lesion. In doubtful cases it should be made in the middle line, immediately below the umbilicus. If this reveals no lesion it is easily prolonged in an upward direction, so as to expose the stomach, duodenum and gall bladder. In doubtful cases Rutherford Morison excises the umbilicus by an elliptical incision, opening the abdomen in the centre. During operation the patient should be kept warm, and unnecessary manipulation of the in-

testines avoided. The details of the technique are of far less importance in relation to the results than the time which has elapsed since the onset of symptoms.

Amongst the most important factors in the improvement of the results of operation are:

1. The general adoption of Fowler's semi-sitting position, which facilitates drainage of the peritoneal cavity.

2. The injection of large quantities of saline solution, either by the subcutaneous or transrectal method.

3. Lavage of the stomach.

4. Reduction of the duration of the operation to a minimum.

The objects of the operation are (1) Removal of the primary focus of disease, from which the peritonitis has originated, e.g., a gangrenous or perforated appendix, or closure of a perforation; (2) to provide for drainage. The latter tends to prevent the further resorption of infective material into the blood, whilst the reduction of intra-abdominal pressure facilitates respiration and circulation. With the object of increasing the rapidity and simplicity of the operation some writers have recently recommended that under certain circumstances the removal of the cause of the peritonitis should be abandoned, but it is still the general opinion, in which I concur, that the appendix should be removed in practically every case of appendicular peritonitis, and all pus pockets broken up, the operation being carried out with the least possible manipulation of the peritoneum.

The question as to how the exudation shall be dealt with after the cause of the peritonitis is removed has given rise to a considerable amount of discussion, the alternatives suggested being as follows:

1. That it should be left in the peritoneal cavity.

2. That it should be flushed out.

3. That it should be mopped out.

4. That flushing should be practised in some cases, mopping in others.

The answer to this question is obviously dependent upon the importance which is attached to the thorough cleansing of the peritoneal cavity from the septic products present in it.

In deciding as to the respective merits of the moist and dry methods of cleansing the peritoneal cavity it is of the utmost importance that the characteristics of the normal and pathological serosa should be fully appreciated. Von Haberer and Clairmont have shown that the peritoneal serosa manifests the greatest capacity for resorption at the level of the sub-diaphragmatic spaces, and Noetzel has demonstrated its defensive reaction in regard to infection. The greatest omentum, which is very movable and is supplied abundantly with lymphatics,

plays an important rôle in the defence of the peritoneum, as does also the natural tendency, which is present in many instances, for the inflammation to become encysted. One of the great advantages of the dry method, as compared with that of flushing out the peritoneal cavity, is that it occupies much less time, and thus tends to minimize shock.

Murphy and other American surgeons are of opinion that the one essential point is that the primary cause of the condition should be removed with as little delay and injury to the peritoneum as possible, and with a minimum amount of narcosis. As the exudation itself possesses bactericidal properties, and is therefore an important factor in defence, it appears inadvisable to attempt thorough cleansing of the peritoneal cavity. Murphy has accordingly abandoned both flushing and mopping, believing that these measures tend to reduce the protective forces of the serosa, as represented by the leucocytes, and leaves the toxic material which still remains in the cavity to be dealt with by the natural resistance of the serosa. Bauer recommends that the fibrinous or fibrinopurulent deposits, which are observed on the intestines in some cases, should also not be interfered with.

As opposed to Murphy's opinion, some surgeons, including Körte, Kocher, Lennander, von Eiselsberg, Burns, Kümmell, Rehn and Noetzel, still maintain that great service is rendered to the organism by removal of as much of the septic material as possible, and that whilst flushing is suitable in some cases, mopping is preferable in others. Rutherford Morison reserves cleansing the peritoneum for cases in which operation has been done at an early stage, and there has been extensive extravasation into the peritoneal cavity, as in rupture of a viscus.

Some surgeons, including Bond and Blake, whilst not in favor of flushing as a routine procedure, recommend it in cases in which foreign material other than pus is present, such as particles of food and feces.

I am personally thoroughly in accord with Murphy's opinion in this regard, and abandoned the practice of flushing out the abdomen many years ago. Neither am I in the habit of mopping out the pus, but my object in these cases is first of all to remove the cause of the peritonitis, and secondly to provide drainage, the operation being done as speedily as possible. Since adopting this method my results have been infinitely better than they were when I wasted time in flushing out the abdomen.

In regard to drainage, Lücke was the first to insert a large drainage tube in Douglas' pouch in a case of peritonitis. The majority of surgeons are of opinion that it is advisable to make provision for the escape of the septic products left in the peritoneal cavity and of any exudation which may subsequently form, but that the arrangements

for drainage should be as simple as possible, consisting of one drainage tube in the area of primary infection, and another in Douglas' pouch. Cigarette drains are preferable to unprotected rubber tubes. Murphy, however, insists on the importance of tubular drainage. At the meeting of the British Medical Association in 1911, Mr. Leonard Bidwell recommended rectal drainage, which I consider very objectionable.

The general rule that drainage tubes should be left in position until secretion ceases, or has at least appreciably diminished in quantity, is not applicable to diffuse peritonitis. It is a difficult question to decide how long drainage should be continued in any given case, owing to the fact that purulent secretion persists almost as long as the drain remains *in situ*, indicating a possibility that its presence may contribute to the continuance of the suppuration. Noetzel recommends that the drainage tubes should be frequently changed, the tube inserted on each successive occasion being of smaller calibre than the one preceding it. He believes that in this way secretion is gradually reduced without mechanical irritation, and that contraction of the granulation canal is rendered possible, without sudden occlusion of its orifice.

According to Hartmann the chief indication for drainage is the presence of non-resorbable particles, such as gangrenous serosa in contact with a gangrenous appendix. Blake gives the following indications:

1. Drainage should be employed only in the presence of necrotic material, which may form a nucleus for infection.
2. If drainage is necessary, a large drainage tube should be used.
3. The drainage tubes should remain in position until all necrotic material has escaped, and then promptly removed.

Gauze tamponnage is contra-indicated in these cases. The softening effects, together with the increase of inflammatory reaction and of secretion, which are so beneficial in phlegmonous processes, are injurious in septic peritonitis. Another harmful result is the compression of the intestinal coils necessitated by the space which it occupies.

In certain rare cases drainage may be unnecessary, and some have gone so far as to practise complete closure of the wound in cases in which the peritonitis is not very far advanced, and the septic contents of the cavity are not very toxic in character.

Amongst those who are in favor of primary closure of the wound are Bauer, Rotter and Grant Andrew. Hartmann and Blake also report good results from it in cases operated upon at a very early stage. Bauer, who removes the pus either by flushing or mopping, uses the method almost exclusively in cases in which the pus is entirely free and encapsulation has not occurred. He states that in his experience it has the following advantages:

1. Intestinal peristalsis returns much more rapidly.
2. Attacks of vomiting are rare and soon cease altogether.
3. Convalescence is shortened, and the patient is therefore able to resume his occupation more quickly.

Rotter has also abandoned drainage, with the following exceptions:

1. Cases in which there is a bleeding point which cannot be arrested.
2. When there is loss of peritoneal substance.
3. When the peritoneum is purulent and necrotic.
4. When there are budding surfaces covered with granulations.

The operators mentioned above practise either flushing or mopping out of the exudation from the peritoneal cavity in cases in which drainage is not employed.

My own practice is to use a combination of cigarette drains and rubber tubes. When operating in a case of septic peritonitis due to appendicitis I put a cigarette drain down to the site of the appendix, and then make a small suprapubic opening, and insert a sutured rubber tube, containing a small piece of iodoform gauze, into Douglas' pouch. In early cases I have frequently passed a cigarette drain down from the inguinal wound, along the side of the pelvis, and into Douglas' pouch, without making a second incision. This method is undoubtedly sufficient in many cases, and drainage introduced in this way should give less likelihood of troublesome adhesions.

The elevated position of the head and trunk, known as the Fowler position, has now been generally adopted, and a study of the statistics shows that it has greatly reduced the mortality of peritonitis. It considerably facilitates drainage, the fluid tending to fall into the pelvis, the serosa of which absorbs less than that of the supradiaphragmatic region, and it also facilitates respiration. The patient is usually placed in the Fowler position immediately after operation, but many surgeons now recommend that when moving patients suffering from any acute abdominal condition to the hospital they should be placed in the ambulance in a semi-sitting position, should remain in this position until the operation is performed, and, of course, after the operation until all danger is past.

The chief object of Murphy's method of proctolysis is the prevention of peritoneal resorption. The fluid absorbed by the rectum increases diuresis, assuages thirst, and improves the pulse and general condition. Murphy uses a solution of 7 grains each of chloride of sodium and chloride of calcium to 1,000 of water, at a temperature of about 38 degrees C., and finds that nine to ten litres, entering the rectum in twenty-four hours, can be tolerated without inconvenience to the pa-

tient. This method of treatment, together with the Fowler position, are the chief factors in the tremendous improvement in the results obtained in the treatment of diffuse peritonitis.

Koch states that in his experience appendicostomy has been much more beneficial in the treatment of peritonitis than continuous proctolysis; but the latter is so much simpler and the results so good that I very much prefer it.

If there is persistent tachycardia, digitalis in small doses, or the application of ice on the heart, may be useful. Turpentine stupes sometimes give relief in cases in which there is marked abdominal distension. Some surgeons are in the habit of giving pituitary extract after operation, and claim that it increases intra-abdominal pressure and stimulates intestinal peristalsis.

Opiates are contra-indicated, as they may increase the already existing toxemia, and prevent peristalsis and leucocytosis.

Vomiting.—If vomiting is troublesome, lavage of the stomach may be practised, but unfortunately, the procedure is sometimes painful, and has to be frequently repeated. Noetzel recommends it as a prophylactic measure, and continues to repeat it until the stomach has resumed its normal mobility. He is of opinion that gastric lavage, commenced at an early stage, and continued for a sufficiently long period, is the only certain means of preventing acute dilation of the stomach, which is usually not recognized until too late, and is almost invariably fatal.

Laxatives should not be administered until after the cessation of projectile vomiting.

Weiss and Sencert practise suprapubic drainage, and in order to facilitate it, pass a continuous current of gaseous oxygen through the hypogastric tube. This results in evacuation of the pelvic and peritoneal fluid, and may prevent the formation of adhesions. By this method, of which I have so far had no experience, they have recently obtained four recoveries out of five cases.

Intestinal obstruction is a very common complication of diffuse peritonitis, and in the fatal cases is the most frequent cause of death.

Intestinal obstruction occurs in two forms: (1) Paralytic ileus, and (2) mechanical obstruction.

The first form, that is the paralytic form of obstruction, is usually met with soon after operation in cases in which the peritonitis has been present for some days. After operation and drainage in diffuse peritonitis there is always a possibility of the supervention of paralytic ileus, and measures should be taken to prevent it. When the bowels have moved after operation, however, there is no longer any fear of this form of obstruction. The danger, then, is from mechanical obstruction, which

will occur when adhesions have formed, usually at the end of a week or ten days.

Intestinal paralysis endangers life in one of two ways: (1) By its mechanical results, which include compression of the heart in an upward direction, compression of the lungs, and interference with the circulation in the abdominal and thoracic cavities; (2) by general toxemia, due to resorption of bacteria and toxins from the intestinal contents.

When the obstruction is due to a slight or localized peritonitis it may be relieved by saline cathartics, enemata, and drugs which stimulate peristalsis. Saline cathartics may also be of value in the post-operative paralytic obstruction so often associated with diffuse peritonitis. Strychnine, atropine and physostigmine excite the intestinal fibres and stimulate peristalsis, but physostigmine is the most effectual of these drugs. Salicylate of physostigmine should be injected in doses of grs. 1-5 $\frac{1}{2}$ every two hours for three doses, and then every four hours. Other drugs which have been recommended are oil of ricini and calomel.

I have occasionally found benefit from the use of hot fomentations, with a little sprinkling of turpentine in cases of great abdominal distension. It is quite possible that the resulting hyperemia may influence the circulation in the intestinal coils, and thus favor peristalsis.

If, however, at the time of operation the coils of intestine are seen to be distended and thinned it is useless and dangerous to employ medical measures. Cecostomy or appendicostomy may be of service, but in severe and advanced cases enterostomy should be performed. In exceptionally severe cases it may be necessary to make multiple fistulæ. Volterrani has recently published eight cases, six of which were cured by enterostomy.

My results in enterostomy have not been so fortunate, and I do not think it advisable to establish intestinal fistulæ, excepting as a last resource, in view of the unpleasant nature of the complication, and the fact that fistulæ of the small intestine and cecum have a deleterious influence upon nutrition. In apparently hopeless cases, I have made multiple punctures of the intestines by means of a fine canula, the openings afterwards being closed. In two cases at least this procedure has saved the life of the patients, and in the other cases it has at least added very considerably to their comfort.

I should like especially to emphasize the importance of careful observation in regard to the symptoms of mechanical obstruction, which, as previously mentioned, usually appear at the end of a week or ten days, and to urge immediate operation. If, at the end of a few days or a week, the patient suffers from nausea and vomiting, and if a

purgative or enema is not effective, it is in my opinion very wrong to delay more than a few hours before resorting to surgical measures. If much time is wasted in this way the patient will become so weak that even though the operation is performed later and the obstruction relieved recovery will not follow.

Since I have kept a close watch for mechanical obstruction, and have made it a rule to operate at once, I have not lost a single case from this cause; whereas, a few years ago, several cases were lost, owing to the fact that operation was delayed in the forlorn hope of a result from purgatives and enemata. Several patients operated upon in the country, in whom this complication appeared at the end of a week or ten days, have lost their lives because the surgeon was not called again to give the necessary relief by a second operation.

1. I should like to strongly emphasize the necessity for early operation in all cases of acute appendicitis. In this way the majority of the cases of diffuse peritonitis dependent upon the appendix would be avoided.

2. The necessity for early recognition of peritonitis and prompt surgical intervention.

3. The importance of a rapidly performed operation, with as little handling of the intestines as is consistent with the removal of the primary cause of the peritonitis.

4. A split rubber tube containing iodoform gauze, or a cigarette drain, should be put down to the bottom of the pelvis through a suprapubic opening, as well as a cigarette drain to the site of the primary lesion. In many cases it will be sufficient to pass a cigarette drain or split tube through the appendicular incision, with or without a small cigarette drain passed to the site of the appendix. The rubber tube should be removed at the end of forty-eight hours, and its place taken by a piece of iodoform gauze an inch wide.

5. The patient should be placed in the Fowler position as soon as a diagnosis of acute appendicitis or perforation is made, should retain this position until the operation is performed, and after operation until all danger is over, that is to say for a period of from four days to a week.

6. Proctolysis is of great value, and should always be used by the continuous drop method of Murphy.

7. Gastric lavage at the time of operation, and if vomiting is troublesome it should be repeated.

8. The administration of physistigmine, 1-50 grain every two hours for three doses, and then every four hours until the bowels move, seems to be of value.

9. In regard to morphine after operation, my rule is to allow a

single dose of 1-6 to $\frac{1}{4}$ grain if the pain is severe, which is not to be repeated. Many cases get on without any morphia at all, and from my own observation I am quite convinced that the employment of frequent doses of morphia in these cases increases the tendency to intestinal paresis and obstruction. The most troublesome cases are those in which the attending physician has ordered repeated doses of morphia. I know that many surgeons do employ morphia in repeated doses after operation, and claim that it has not only produced no ill effect, but has been beneficial, but this is contrary to my experience.

10. The morning after operation I order a 1-2-3 enema (i.e., an enema consisting of 1 oz. of glycerine, 2 oz. of magnesium sulphate, and 3 oz. of water). This enema is repeated every morning for the first five or six days, and usually no purgative is given until the end of this time, when calomel, followed by a saline or a dose of castor oil, is given. If distension is troublesome, a rectal tube is inserted, and left in for some hours.

11. If symptoms of mechanical obstruction appear, immediate operation should be performed, without wasting time in giving enemata which are ineffectual.

GENERAL PERITONITIS IN GYNECOLOGICAL AND OBSTETRICAL PRACTICE.*

BY B. P. WATSON, M.D., (EDIN.), F.R.C.S., EDIN.

Mr. President and Fellows,—

THE part allotted to me this evening is that of initiating the discussion on general peritonitis as met with in gynecology and obstetrics. Even when viewed from this limited standpoint the subject is a large one, and, in the short time at my disposal, I cannot cover the whole field. I shall, therefore, rather try to focus attention on one or two points dealing more especially with prophylaxis, and shall leave to the other speakers a detailed discussion of general causes and treatment.

Taking up the subject from the viewpoint of gynecology, the first thing that strikes us is the comparative rarity of general peritonitis as a sequel to purely pelvic lesions in women. Considering the large numbers of pus cases with which we have to deal, this at first sight appears strange, and a consideration of the causes underlying this comparative immunity is instructive both from the side of pathology and from the more practical standpoint of treatment. We shall see that general peritonitis in gynecological practice is to a large extent preventable if we

*Abstract of paper read at the Toronto Academy of Medicine, 7th January.

have a proper conception of the pathological conditions and base our treatment on these.

In the rapid dissemination of an infective process in the general peritoneal cavity several factors play a part, viz., the action of gravity, the peristaltic movements of stomach and intestine, the great shock, producing a lowering of the vitality of the tissues and the virulent nature of the infecting organisms. In pelvic lesions, on the other hand, gravity tends to limit the process; there is comparatively little visceral movement; there is less shock and therefore a greater chance of tissue reaction which will limit the process, and lastly, the infecting organisms are often of a less virulent type than those present, say, in a perforative lesion in the upper abdomen or appendix region. A peritonitis having its origin in the pelvic organs thus tends to remain localized, and this localization may or may not be followed by abscess formation.

The chief source of peritoneal infection in the female pelvis is the Fallopian tube. In practically every case of salpingitis there is an associated peritonitis, the organisms reaching the peritoneal surface either through the abdominal ostium or by a lymphatic extension through the tube wall. In most tubal infections, especially gonococcal ones, the extension of the inflammatory process is comparatively slow, and there is time for tissue reaction. The tube wall becomes edematous and thickened, the mucosa swells and there is a certain amount of gliding of one muscular coat on the other. The result is that the fimbriae become retracted within the lumen and peritoneal surface becomes adherent to peritoneal surface round the abdominal ostium. A large escape of infective material is thus prevented and the chances of a diffusion over the general peritoneal surface lessened. Peritoneal adhesions to surrounding structures form, and as distension increases the tube wall becomes thickened by the deposit of inflammatory material, and so a large pyosalpinx may result. After a time the infecting organism, especially if it be the gonococcus, tends to die out. Sometimes it is replaced by a secondary invasion of the vacillus coli, which, in its turn, may also die, leaving the pus fetid, but quite sterile. In such a case nature limits the infective process and we must be careful that any treatment which we may carry out does not interfere with this limitation.

To operate through the abdomen during the early stage of a pyosalpinx, due to the gonococcus, or even the other pyogenic organisms, is to run a very great risk of setting up a generalized peritonitis, for the difficulties of removal may be so great that some escape of pus may occur. In such cases our treatment ought to be conservative, the patient being kept at rest and carefully watched. The Fowler position

may be adopted, and if necessary opiates given to quiet visceral movement and allay pain. For the latter purpose the application of hot fomentations or of an ice bag may also be used. If general toxic symptoms be severe and pus be obviously present drainage may be established through the vaginal roof. After a period of weeks, or it may be months when the temperature has returned to normal and signs of active inflammation have disappeared, removal of the tube or tubes may be undertaken. In the interval of waiting vaccines may be administered according to the nature of the infecting organisms. In gonococcal cases a mixed vaccine seems to hold out the greatest prospect of success.

When a rupture of a pyosalpinx does occur it is nearly always preceded by severe attacks of abdominal pain and is, of course, followed by general peritonitis. The occurrence of such attacks of pain in a case where we know a pyosalpinx to exist ought to warn us, and this, with a deterioration in the general condition of the patient and a rising leucocytosis, should lead us to explore from below and evacuate the pus.

The mortality from cases of ruptured pyosalpinx is high, and the only hope for the patient is early operation. In such cases, in addition to opening and draining the abdomen, the tube ought to be removed.

The removal of the uterus in those cases where the tube is densely adherent renders the operation easier and, I believe, improves the chances of recovery. When only the tube is removed re-infection may take place from the stump.

In dealing with cases where a more or less localized peritoneal infection has resulted from leakage of pus through the abdominal ostium without the formation of a pyosalpinx and the organism is the gonococcus it is not always necessary to remove the tube. The opening and draining may be all that is required. Such tubes may remain functional, and as the condition is often bilateral and occurs in young women, the conservation of the tubes is most important from the point of view of future child-bearing.

It is also well to remember that in many cases of peritonitis, the tubes are inflamed, although they are not the original source of infection. Organisms in the peritoneal cavity are very apt to find their way through the abdominal ostium and set up a salpingitis. In such cases careful search must be made for the primary lesion.

In addition to tubal affections there are other lesions of the female pelvic organs which are occasionally the cause of a generalized peritonitis. These can only be mentioned briefly.

Perforation of the uterus by the uterine sound dilator or curette in the course of the operation of curettage is not an infrequent acci-

dent. If, however, the operation has been carried out with due aseptic precautions peritonitis seldom follows. If, therefore, such an accident occur, no treatment of an active kind should be carried out. If the operation be stopped and the patient kept at rest she will, in most cases, make a good recovery. Should, however, symptoms of peritonitis supervene the abdomen must be opened.

Torsion of the pedicle of a subserous fibroid of the uterus or the rare cases of torsion of the whole uterus may be followed by a diffuse peritonitis usually due to the bacillus coli. Here again the watchful surgeon will step in before such a calamity occurs.

Necrobiosis or red degeneration of uterine fibroids, a condition which may arise without apparent cause, but which is often associated with pregnancy, abortion or the puerperium may also be followed by general peritonitis. The signs and symptoms of this condition are so definite that warning is given and operation should be undertaken before the process has advanced to such an extent as to lead to secondary involvement of the general peritoneum.

Torsion of the pedicle or suppuration of an ovarian tumor may have general peritonitis as a sequel, but here again the peritoneal inflammation is a terminal phenomenon and ought not to be allowed to occur.

The treatment of these cases differs in no way from that suitable for peritonitis due to other causes and should follow the general principle of removal of the source of infection and the establishment of drainage. Regarding the latter point we shall have something to say later.

Puerperal Peritonitis.—In the great majority of cases of peritonitis occurring in obstetric practice the infection is part of a general sepsis. A study of the more recent literature and work on this subject, while it leaves us still in doubt regarding many points, seems to make it clear that many of the severe types of puerperal sepsis, including peritonitis, are the result of what has been termed "meddlesome midwifery."

It used to be taught that the parturient canal was free from pathogenic organisms, provided no examination had been made before or during labor, and it was believed that in most cases of puerperal sepsis the organisms had been introduced from without. Through the work of many investigators this belief in the absence of pathogenic organisms from the genital canal has been shattered. We now know that organisms, many of them virulent, or potentially virulent, are sometimes present previous to any internal examination. The mere presence of a raw surface may not be sufficient, they must actually be planted in it. A knowledge of these facts regarding endogenous infection

has led to a considerable modification in the treatment of minor accidents of labor and the milder and more localized forms of puerperal sepsis. A still wider knowledge of them will lead to a great diminution in the number of cases of serious puerperal sepsis, including peritonitis. The fact that potentially virulent organisms may be present should make us extremely cautious in carrying out any but the most necessary interference. Take, for instance, the retention *in utero* of small pieces of placenta or membrane. In the absence of hemorrhage it is safer to leave these in the uterus than to run the risk of inoculating raw surfaces with pathogenic germs, and this we may do however perfect our aseptic technique. Then again in mild degrees of sepsis any active treatment such as rough manipulations in the giving of an intra-uterine douche or in curettage of the uterus may result in a fresh inoculation and a rapidly spreading sepsis. In such cases rest, the Fowler position and the administration of a uterine stimulant, such as ergot, may be all that is required.

We have put these facts in the forefront because in the present state of our knowledge our great hope lies in prevention. The mortality of puerperal peritonitis is very high. This is due to the fact that it is often only a part of a general sepsis, and that the diagnosis is difficult, so that operation is not undertaken early. But even in cases where operative interference is carried out at an early stage the results are not so good as those obtained in abdominal lesions, such as perforated gastric ulcer or appendicitis. This is accounted for by the low state to which the patient is brought by the septic poisoning and the impossibility, in many cases, of removing the source of infection. De Lee states that out of over twenty cases on which he has operated, only one has recovered.

When occurring as part of a general sepsis the typical signs of peritonitis may be absent. Chief reliance for diagnosis must be placed on the increased rapidity of the pulse, abdominal distension and vomiting. The presence of free fluid is seldom detected, but in cases of doubt exploration with a needle may help. Those cases usually terminate fatally in a few days. Some are opposed altogether to operation, especially if the organism is a streptococcus and it is present in the blood.

In cases where the peritoneal infection occurs later in the puerperium, and is at first localized to the pelvis, the prognosis is better. In these cases the gonococcus and bacillus coli are more often present and infection takes place through the end of the tube or by lymphatic extension through the wall. Those cases must be carefully watched, and if the inflammation shows signs of extension the abdomen must be opened without delay. If, on the other hand, the general condition of the patient is good and there is no evidence of extension to the upper

abdomen, it is better to wait for localization to occur and then attack the condition from the vaginal fornix. No definite rules can be laid down which will apply to all cases. Each must be judged on its merits. In one it may be best to make an incision through the posterior fornix at an early stage and so diminish the risk of extension to the upper abdomen. Several writers have reported good results from this procedure. When in doubt it is better to err on the side of early rather than of late interference. It is in such cases that a man's clinical acumen tells.

Treatment of General Peritonitis.—Surgeons differ in their procedure in operating on cases of general peritonitis. All are, however, agreed that if possible the source of infection ought to be removed. The incision should not be a large one and should be made over the site of the lesion. In pelvic cases a median incision below the umbilicus is the one generally employed. There ought to be as little handling of the viscera as possible. This is specially important in puerperal cases owing to the degree of collapse so often present. Some make only one incision, others such as Bumm make several counter openings. Fluid should be evacuated with as little swabbing as possible.

Most operators now dispense altogether with washing out. In peritonitis, due to a pelvic lesion, the inflammation at the time of operation may not have extended to the upper reaches of the cavity. To flush out the abdomen in such a case is to run the risk of infecting fresh surfaces. In determining this question of washing out or not, the procedure advocated by Wilkie might be more generally followed. He advises that a rapid microscopic examination of the exudate be made. If most of the organisms are intra-cellular, no washing out is required, but if many are extra-cellular and the cells are degenerated, flushing with sterile water or saline will do good.

Drainage should be established through the lower end of the wound. A large rubber tube or two or three placed side by side have given us the best results. One of the tubes may be split in a spiral manner and a strand of gauze placed inside. As regards drainage through the vaginal roof it is good where there has been a collection of pus in the pouch of Douglas or some definite pelvic lesion, but for drainage of the general peritoneal cavity we think its importance has been exaggerated. We have found that in cases where drainage through the abdominal wound and through the posterior vaginal fornix has been employed, the amount of discharge from the latter is less and ceases sooner than from the former. One would naturally think that gravity would make vaginal drainage the more effective of the two. But the tube in these cases seems to be compressed and blocked by the pressure of the viscera and efficiency is also interfered with by the forma-

tion of adhesions. For these reasons we think it best to rely on abdominal drainage alone, except in cases where, as stated before, there is a definite focus of infection in the pouch of Douglas or its neighborhood. If vaginal drainage is employed the tube may be removed in a few days, and in most cases it will not be necessary to reinsert it. It is not wise to distress a patient by trying to force a tube through a rapidly closing vaginal opening if abdominal drainage is efficient.

If at the end of the operation the patient is collapsed, saline should be given intravenously. A much quicker reaction is obtained by this means than by the interstitial or rectal methods. In the after-treatment repeated saline rectal injections we have found more easily managed than continuous irrigation.

There are many aspects of this subject which, in the time at my disposal, I have been unable even to mention, but the speakers who are to follow will doubtless deal with some of those.

GENERAL SEPTIC PERITONITIS.*

By S. M. HAY, M.D., C.M.

Mr. President and Fellows of the Toronto Academy of Medicine,—

PERITONITIS may be caused by many different conditions, and any of the ordinary pyogenic organisms may be responsible. Their entrance through the blood stream is rarely in sufficient quantity to produce diffuse inflammation, but it is generally due to some gross surgical lesion. The severity of the inflammation may depend on the virulence of the poison introduced, the resisting power of the patient or upon the part of the peritoneum chiefly or primarily affected. The pelvis absorbs poison slowly, while the upper peritoneum, near the diaphragm, absorbs rapidly.

Clinically peritonitis may be divided into two classes: 1. Acute. 2. Chronic. The acute may be either localized or diffuse. The chronic either simple or tuberculous. It is the acute, diffuse variety that is chiefly under discussion to-night. Bishop says that the character of pain in these cases is of great value in diagnosis. An intense, sudden, tearing pain, often severe enough to produce collapse, and usually associated with sharp vomiting, is common to a comparatively small class of cases. These are:

1. Ruptured ectopic.
2. Ruptured Pyosalpinx.
3. Ruptured appendiceal abscess.

*Abstract of paper read at the Toronto Academy of Medicine, 7th January.

4. Ruptured Gastric ulcer.
5. Ruptured duodenal ulcer.
6. Ruptured gall-bladder.

Just observe that these are all *ruptures* of important organs, permitting the escape of irritating fluids into a healthy peritoneal cavity.

The symptoms of peritonitis are well known. They generally commence with abdominal pain combined with rigidity and this is important. Pain without rigidity does not indicate peritonitis. In cases of intestinal obstruction from non-inflammatory adhesive bands—you have pain, but not rigidity. In gastric or duodenal ulcer, you may have pain but no rigidity, until the peritoneal coat becomes involved. Catarrhal appendicitis will cause pain but no rigidity unless there be also some peri-appendicitis affecting the peritoneum. From this I think we may say with confidence that we do not get rigidity until the peritoneum becomes involved.

This rigidity of the abdominal muscles, however, is only temporary. It passes off later on. When distension begins, showing septic paresis of the intestine, rigidity lessens or passes away.

Subjective pain may be misleading as the patient may refer it to the region of the umbilicus, but, on palpation, if we find one point more tender than any other, we may reasonably conclude that we have found the origin of the trouble.

In addition to pain and rigidity we have spasm and tenderness, vomiting or an inclination to vomit. There will also be alterations in pulse and temperature.

A pulse increasing in frequency and decreasing in volume is significant, and, as a grave prognostic sign, is reliable. A pulse rate persisting above one hundred and twenty, regardless of temperature, is a serious sign.

Before passing on to the all important part of our subject, general or diffuse, septic peritonitis—we may briefly discuss the localized form. Let us take for example an acute appendicitis, 24 hours old, pain and rigidity in the right side, over McBurney's point, while the left side remains soft and even painless. In such a case, I think, we are all agreed that the appendix should be removed at once, while the disease is still confined to that organ; by doing so we have gotten rid of the entire trouble and perhaps saved our patient from a perforation with a dangerous diffuse septic peritonitis. Take another example of the localized form, salpingitis, of one or more days' standing. Shall we remove the tube at once? Certainly *not*.

If we are called to see a case of appendicitis ten or twelve days old, of this localized variety, and on passing our hand over the abdomen we find a large prominent mass in the region of the appendix, and

the other parts of the abdomen comparatively soft, we know that we have to deal with a large abscess. What is our treatment? We merely open the abscess where its wall has united to the abdominal wall, pass in a drainage tube, and stop. If the appendix comes into view at once it should be tied off. We are not justified in this case in hunting for the appendix, lest, in doing so, we disturb the abscess wall, break down nature's inflammatory protection, and cause pus to escape into the general peritoneal cavity with well-known results. Even though the appendix be perforated, it can only leak into the abscess cavity and run out through the tube you have inserted. The appendix may be removed at a later and safer date, if necessary.

We now come to the battle-ground of this whole subject: the treatment of general septic peritonitis. There are very few, if any, more formidable foes with which the surgeon is brought face to face.

The treatment of this condition is surgical. There is no medical treatment, except in so far as it may assist and supplement the surgical. Isolated cases recover under medical treatment, and they may do so under no treatment.

By operation we seek to first remove the products of inflammation or escaped contents of a ruptured viscus, second to relieve intra-abdominal tension and thus diminish absorption, third to remove or close the focus of infection.

Where the cause of the trouble is known, the incision should be made over the affected viscus. If the cause be unknown, we should make a liberal median incision between the umbilicus and pubes. During every step of the operation we should keep a sharp lookout for any sign that will direct to the probable cause. On opening the peritoneum proper, note if a puff of gas escapes, which would indicate the rupture of some air-containing viscus. If a gastric ulcer has perforated, the escaping fluid will contain flakes of lymph or particles of food. The fluid may be bile-stained in perforated duodenal ulcers. If the gas and fluid have a very offensive odor, we may enclude stomach and duodenal trouble and suspect the appendix as being the offending organ.

Now introduce the fingers, or perhaps the hand, into the abdomen with the greatest possible gentleness. No rough manipulations should be used. Every movement should be made with gentle quickness and definite purpose. Let us first find the cecum and examine the appendix. If it be innocent and the cecum collapsed, we know the large intestine is not the cause of the trouble, so we must search higher in the gastro-intestinal tract. Should the cecum be distended, we next examine the sigmoid, and if it is also distended and no obstruction between it and the anus, we know we have a case of intestinal paresis from gen-

eral septic poisoning. But we have not found the source of the trouble. By gently passing the hand towards the upper abdomen we will probably find one spot where there is a thick, localized deposit of lymph, and on disturbing this an extra amount of fluid is liberated. This is a reliable guide to the initial lesion.

We will suppose that by our hurried and systematic examination we have found a gastric perforation. We at once proceed to close the opening (without excising it) in the orthodox manner. If we are not perfectly satisfied with the security of our closure, and at times the tissue is very friable, we should place an omental graft over it as an additional precaution; or we may cover it with a strip of gauze, leaving one end out of the incision. The sponge water in this work should be normal saline, and small, wet sponges, with holders, should gently mop out the excess fluid and escaped stomach contents. A second incision above the pubes (if the first one has been over the stomach region) and the fingers passed into the pelvis will generally be rewarded by a surprising gush of fluid. A rubber tube is placed in the pelvis and the wound closed around. No flushing of the abdomen is necessary or advisable. The upper wound may be closed completely if no gauze has been packed around the stomach sutures. The fluid is sucked out of the drainage tube, frequently with glass piston syringe and catheter attached. In a day or two, drainage ceases. Any drainage tube should be withdrawn an inch in twelve or twenty-four hours lest the end should cause a pressure slough by accidentally resting on a part of the intestine. After operation the patient is put in the Fawler position.

There are cases of general septic peritonitis where we have symptoms of *indefinite* intestinal obstruction due to paralysis of the bowel. You may even have visible coils appearing through the greatly distended abdomen. These are cases of some days' standing. On opening the abdomen in such cases, the over-distended, dark-colored bowels protrude through the incision. Here it may be necessary to empty the bowel of its contents before we can make a successful search for the source of the trouble. In making your opening in this congested intestine, the incision should be made opposite the mesentery and across the bowel, and thus interfere as little as possible with the already badly damaged blood-vessels.

There are a few forms of general septic peritonitis in which it is not advisable to operate, and those are the cases where we cannot remove the septic focus. As examples, we may mention: cases resulting from poison introduced at an operation, cases resulting from gonorrhoeal infection or from some cases of pneumonia.

It is encouraging to note that the general practitioner of to-day rarely covers up the symptoms of these acute abdominal cases by the use

of hypodermics of morphia. Morphia should never be used until the diagnosis is made and the line of procedure determined.

We now sum up the treatment for the great majority of cases of general septic peritonitis as follows:—

1. Operate as early as possible in the attack. Every hour of delay increases the mortality.

2. Remove the focus of infection in the quickest and most simple manner, and with as little trauma as possible.

3. Wipe out with moist, small sponges, on holders, the *gross* inflammatory products and escaped viscus contents that have accumulated in the pelvis.

4. Place a large rubber drainage tube in the pelvis, with a strip of plain sterile gauze down beside it. This tube is kept empty by a glass piston syringe with rubber catheter attached.

5. Place the patient in the Fowler position as soon as diagnosis is made, and again for two or three years after the operation.

6. Give large quantities of normal saline by the bowel, either continuously or intermittently, after the operation. It is said to reverse the current in the lymphatics of the peritoneum, making the surface of that membrane a secreting instead of an absorbing agent.

7. A single dose of morphia may, if necessary, be given after operation. The bowels are moved in twelve or twenty-four hours by laxative enemata. My favorite formula for ten or twelve years being:—

Turpentine 2 oz.

Glycerine 2 oz.

Mag. Sulph. (sat. solution) 2 oz.

Aqua ad 12 oz.

Sig.: Warm, and give high.

550 Palmerston Boulevard, Jan. 3rd, 1913.

MEDICAL ASPECTS OF SEPTIC PERITONITIS.*

BY JOHN FERGUSON, M.A., M.D., TORONTO.

Mr. President and Fellows,—

WHEN I was requested to make a contribution to the programme of this evening on the subject of "Septic Peritonitis," I at once consented, for I have always felt that every Fellow should be willing to respond to the call of the Chair with the same readiness as does the individual member of a regiment to that of his superior officer.

In the first place, let us look into the abdominal cavity. A little

*Abstract of paper read at the Toronto Academy of Medicine, January 7th.

reasons for the frequency with which disease makes its appearance in it. Many important organs, with complicated functions, are in close contact with each other, and these are, more or less, completely covered by the subject of our study to-night—the peritoneum. The peritoneum, in extent, if unfolded, would cover the entire body, or, in other words, would equal the area of the skin. In the adult, the intestinal canal varies from 15 to 30 feet in length. There are also the liver, the spleen, the pancreas, the kidneys, and the uterus, with their ducts and tubes. In the male, the peritoneum is a completely closed sac, while in the female, it opens upon the external world through the Fallopian tubes. It should be borne in mind that the peritoneum is richly supplied with blood-vessels and lymphatics; that it has definite secretory functions to perform, and that its absorptive powers are very great, especially in those parts known as the large omentum and the covering of the diaphragm. Here lies the key to much that makes for successful treatment.

This disease has been spoken of by many writers under the headings of primary and secondary. By the former term is understood that form of the disease in which no other causative or primary lesion is present. The peritoneal cavity becomes infected as the result of some general infection, as pneumococccic septicemia. Under this rematogenous variety come those cases that were formerly called idiopathic or rheumatic, and such like. The primary form of peritonitis occurred in 12 out of 106 cases reported by Flexner, and 9 out of 105 observed in the Massachusetts General Hospital by Manahan. This gives 21 primary cases in 211, or a little less than 10 per cent. of all.

Coming now to the secondary form of septic peritonitis, Flexner and others give us two divisions—the endogenous, when it is from without. In 162 cases there were 44 of the exogenous class, and 118 that should be considered endogenous. In these 162 cases the following organisms were found: The bacillus coli communis, 54 times, 11 times alone and 43 times combined with some other germ; the streptococcus pyogenes, 49 times, 12 times alone and 37 times combined; the staphylococcus aureus 18 times, 13 times alone and 5 times combined; the bacillus aërogenes capsulatus 8 times, twice alone and 6 times combined; staphylococcus albus 7 times, 4 times alone and 3 times combined; the pneumococcus 7 times, twice alone and 5 times combined; the bacillus pyocyaneus 5 times, and always in combination; the bacillus proteus 5 times, twice alone and 3 times combined; the bacillus typhosus 3 times, and always combined. There were 6 cases of undetermined mixed infection. Other observers have obtained results that fairly closely agree with the foregoing. The gonococcus is responsible playing a more and more important rôle in the treatment of septic peritonitis. Nevertheless, enough is known to make this one of the gravest

alone for some cases of peritonitis. Generally, however, some other organism is found along with it. The mixed cases are usually the more severe.

A good deal of careful work has been done on the site of the lesion through which the infecting organisms find their way into the peritoneal cavity. On this point the statistics from St. Thomas' Hospital are instructive. Intestinal obstruction of some sort caused 39 per cent., appendicitis 37 per cent., perforations of the alimentary tract 11 per cent., the pelvic organs 6 per cent., and undetermined 5 per cent. Benda gives the site of the initial lesion in 446 cases as follows: The appendix 115, the stomach and duodenum 68, the rest of the intestines 118, the female genital organs 81, the gall bladder 10, the kidneys and urinary bladder 10, the pancreas 2, the spleen 1, post-operative 4, hematic 2, and of unknown origin 35.

In the study of the etiology of septic peritonitis, two things should be borne in mind. First, that the various bacilli or cocci may pass through an inflamed portion of the alimentary tract, or of a tube or duct, though there be no perforation. For example, in the case of an inflamed appendix, the several organisms may have found their way freely into the peritoneal cavity while the appendix remains intact. In like manner, a severe inflammation of a portion of intestine, without a rupture, may be the means of causing peritoneal infection. The second point is that bacteria alone is not always sufficient. The defensive powers of the peritoneum may be sufficient to prevent the appearance of inflammation. All portions of the peritoneum are not equal in this regard, the lower part being more evolved along the lines of first defence. The organism, too, plays an important role. Against an invasion by the streptococcus pyogenes aureus, or the bacillus pyocyaneus, the peritoneum can make but a feeble resistance. Then, again, the peritoneal cavity may be attacked by such large numbers that its powers to absorb them and carry them away into the blood stream or the lymphatics are overwhelmed. A number of conditions lower the resistance of the peritoneum, such as foreign material in its cavity, rough handling in operations, drying its surface, or prolonged exposure to cold. Fluid in the cavity, Bright's disease, a recent injury, the escape into it of intestinal gases, and the breaking down of adhesions also favor the spread of infection and lessen nature's resistance.

The location of the lesion to some extent assists in coming to an estimate of the nature of the infection. In peritonitis due to gastric perforation, the organisms are usually the pneumococcus and a streptodiplococcus of rather low virulency. In perforation in the small intestines the bacillus coli and streptococci are almost invariably found. thought on the anatomical arrangement of the parts will reveal many

When the rupture occurs at the appendix there is some difference of opinion. Low and Lartigau regard the bacillus coli and diplococci to be causative. These authors also give a prominent place to the streptococci. On the other hand, Krogius, Kelly, Dudgeon and Sargent are inclined to think that the streptococci play a minor part in peritonitis of appendiceal origin. In puerperal peritonitis, streptococci are generally present.

The form of organism has much to do with the course and prognosis of an attack of septic peritonitis. The virulency of the bacteria are in the following order, from mild to severe: First comes the staphylococcus albus, then the gonococcus cases. Next in order are those due to pneumococcal infection. Following this in order of activity we find the more virulent strains of the bacillus coli. The most fatal forms are those caused by the streptococcus pyogenes and the bacillus pyocyaneus, which are about equal in this respect. Against these two latter organisms nature alone can make but poor defence.

Let us recall for a moment what is taking place in a case of septic peritonitis. Professor Andrewes has divided the resisting powers of the peritoneum into the physiological or the first line of defence, and the pathological or the second line of defence. In the first we find that strong currents of fluids in the vessels can do much to carry off the infecting bacteria. This stream can be greatly increased when the need for it arises. These fluids are loaded with antibodies. Then there are the mesoblasts, with their phagocytic powers, which can be thrown into the peritoneal cavity in great abundance. In these processes the omentum plays an important part. The endothelial cells of the peritoneum are shed freely, and possess markedly phagocytic capacity. Should these efforts fail, the second line is called into action, and there is leucytoses, hyperemia and exudation. This latter may be serous, sero-fibrinous, fibrino-purulent, purulent, sanious, or putrid. If the exudate contains much fibrin it fills the spaces between the intestinal coils and glues them together. In this way the exudate serves a useful purpose in limiting the field of infection. But all these efforts may fail and the inflammation may become diffuse or general, and the system is overwhelmed with bacteria and their toxins. The intestinal walls become swollen and softened and lose tone. They may become friable and easily ruptured; the peritoneum strips off readily. The lymphatics are filled with exudates and cells, which Durham has shown are conveyed to the anterior mediastinal glands, these becoming seriously infected in bad cases. The liver, spleen, kidneys, and pancreas frequently show cloudy swelling.

What has already been said leads to a few words on prognosis. Much of the statistic of the past must be set aside, as surgery is continuously

of maladies. In Treves' reported 100 cases there were 70 deaths. The disease tends to be most fatal at the two extremes of life, and debilitating conditions and intemperate habits add much to its gravity. Toxemia and septicemia are factors that largely determine the issue, and every effort should be made to prevent and control these. Among unfavorable symptoms may be mentioned rapid pulse, low temperature, abdominal distention, and absence of leucocytosis. The prognostic importance of the different kinds of infection has already been discussed. One of the most important considerations in the prognosis of this disease is that of the time that has elapsed from its inception to that of operation.

The physician should, therefore, be a master of the semeiology of the disease. He should be on the alert to recognize the abdominal pain, the tenderness, the nausea, the vomiting, and the changes of pulse and temperature. Attention should be given to detect rigidity of the muscles, as this is of great value in differentiating peritonitis from colic, volvulus, gall-stone attacks and the passage of renal calculi. There is in these states no real tenderness, and pressure may even afford relief. Ordinary tympanites is distinguished from peritonitis by the absence of tenderness and vomiting. The sunken, anxious face and the restlessness of the upper part of the body, with the immobility of the abdomen, should be noted. The pulse is small, weak, running, wiry, and usually above 120 per minute. Extreme meteorism may cause the liver dullness if there are adhesions. Diaphragmatic pleurisy may give rise to doubt, but there is a catch in the breath at the height in inspiration, and under firm pressure with the flat hand the abdomen relaxes at each inspiration, which is not the case in peritonitis. Copious vomiting, visible peristalsis, rapid onset of distention, the paroxysmal character of the pain, and, at first, the absence of fever, true tenderness, and rigidity, enable the diagnosis of acute obstruction to be made. The late Mr. Greig Smith said that if no gurgling was heard after five minutes' auscultation, there was complete intestinal paralysis. Dr. Nothnagel claimed that the elimination of large quantities of indican in the urine was a very valuable and constant sign of diffuse, acute peritonitis.

Diagnosis is the key to the situation, the master-word, the open sesame that will unbar the door to whatever measure of success may attend one's effort at treatment. Three phases of the diagnostic problem must be kept in view.

1. Those conditions that may lead to errors in diagnosis, and some of which may cause septic peritonitis, must be differentiated. These are: (a) ruptured tubal pregnancy, with its menstrual history, pelvic location, shock, and acute anemia; (b) acute enterocolitis, in which there is pain, tenderness, diarrheal colic, tenesmus collapse, toxemia,

but absence of rigidity; (e) referred abdominal pain caused by pleurisy and pneumonia, but the absence of tenderness and rigidity should clear the ground; (d) hysteria may be very misleading, but the stigmata of the true condition may be found by close observation; (e) intestinal obstruction due to intussusception, strangulation, volvulus, stricture, foreign bodies, and the dynamic form, as paralytic or spasmodic, but the absence of fever and true rigidity will assist in arriving at a true opinion; (f) acute pancreatitis, with its sudden onset, epigastric pain, tenderness, vomiting, collapse and distention, may cause much doubt, but the absence of indican from the urine is of great importance, and there is not the rigidity found in gastric perforation or acute peritonitis; (g) ruptured gall-bladder, which is usually preceded by indications pointing to disease, gall stones or jaundice.

2. The local manifestations: (a) Pain is almost always present. Its initial point may vary with the case, as the Morris point in appendicitis, pelvis in tubal cases, in the upper abdomen in gastric rupture. When the peritonitis becomes diffuse the pain is referred to the region of the navel. (b) Tenderness is a very constant symptom. It may be revealed on the slightest pressure, or some force may be required. At first it may be found only at the point of the initial lesion, but later on becomes general. (c) The position of the patient is characteristic, as the knees are always up, and the head raised. (d) Vomiting occurs early; it is frequent and small in amount. At first it is what is in the stomach of last meal; then it becomes bilious, later greenish, and may become brownish. Sometimes it is offensive, as if it contained intestinal contents. (e) The abdomen at first may be retracted; the muscles are tense and rigid. As the disease advances there is distention from the formation of gases, and the loss of peristalsis. The distention presses the diaphragm upwards, with accompanying symptoms. In time there may be a good deal of fluid. (f) Constipation is usual. In puerperal peritonitis diarrhea is common. This is also true of pneumococcal infection.

3. The general symptoms are pronounced in most cases: (a) Shock is well marked, and collapse may come on early from the extent of peritoneum involved, the degree of toxemia. (b) The pulse is frequent, wiry, and hard, and runs from 120 to 170 per minute. (c) The face is anxious, pinched, ashy, cyanotic, clammy. (d) The breathing is rapid, shallow, and costal in type. (e) There is usually fever, though this may be absent. It may rise abruptly. It may range from little above normal to 104. (f) The urine is scant, frequently contains albumin, and the presence of indican is so constant and abundant as to be a valuable diagnostic sign.

The first thing to consider is what to do when the patient is first seen, and before an operation is performed. The advice given by Mr.

Corner cannot be improved upon, and may be thus stated:

1. Place the patient in the semi-erect Fowler position, as this limits infection to the lower portion of the abdominal cavity.

2. Give no food, and allow only very small sips of water, or a few ounces of normal saline solution per rectum every two or three hours. By this means intestinal peristalsis is greatly restrained, and the spread of infection checked.

3. Do not give opiates. This masks symptoms, lowers the resistance of the patient, and interferes with the occurrence of leucocytosis. It is much better to encourage the patient to bear the pain.

4. Wash out the stomach with a solution of bicarbonate of soda, grs. xx to the ounce. This assists in controlling vomiting and thereby mitigates suffering.

5. Do not waste time over vaccines, sera, and attempts at the production of artificial leucocytosis. These measures are altogether too uncertain and time is too precious. These measures may be tried after an operation has been performed.

6. At once educate the patient to accept the benefits of operative treatment. Remember the statistics of Treves, with 30 per cent. recoveries; those of Koerte, with 35 per cent.; those of Haenel, with 37, and those of Krogius, with 28.5. Place against these figures the results of early and properly performed operative treatment. Murphy had 35 recoveries in 36 consecutive cases.

7. If the patient absolutely refuses the benefit of an operation, then treat on the starvation plan of Ochsner, the Fowler position and the maximum of fresh air. Wash out the stomach with the soda solution. Tympanites may be relieved by an enema containing some turpentine, chloroform and tincture assafetida, or by the use of the rectal tube. As opiates lessen leucocytosis, they should not be administered unless absolutely necessary. Both tympanites and pain may be relieved by a turpentine stupe.

The management of the case during operation, and subsequent to it, has been so thoroughly covered by Professors Bruce and Watson and Dr. Hay that there is little for me to say. I shall therefore content myself by merely naming what may be done. (a) The continuous administration of fluids per rectum; (b) vaccines and sera; (c) artificial leucocytosis; (d) washing out the stomach with soda solution if there is sickness; (e) abdominal distention may be treated with hot, dry flannels, an enema, the rectal tube, and the administration of eserine or atropine, or the injections of pituitary gland extract; (f) hiccough is relieved by gastric lavage, sinapism to the epigastrium, an enema, sedative and antispasmodic drugs, or a small amount of morphia; (g) the feeding must be done with the utmost care. Very little should be given at first and cautiously increased.

CURRENT MEDICAL LITERATURE

MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

VISCERAL ORGANISMS.

A. Carrel, New York, (*Journal A. M.A.*, December 14), describes his technic for keeping entire organs alive outside of the organism in an incubator at a temperature of 38 C. while the lungs were being ventilated. The method consists in removing aseptically *enmasse* the heart, lungs, liver, stomach, pancreas, adrenals, kidneys, spleen and part of the intestines of an animal, generally a cat. This was done in five stages on the etherized animal: 1. After the esophagus was ligated and separated aseptically the trachea was cut across, a glass tube inserted in its lumen and a catheter introduced into it as far as the bifurcation. 2. The abdomen was opened, the aorta and vena cava cut and tied in the lower part and the smaller intestine cut aseptically. "The ureters were severed. Then the aorta and vena cava were isolated from the posterior walls of the abdomen and their posterior branches tied. The peritoneum surrounding the kidney was dissected. The splanchnic nerves were cut. Then the abdominal viscera were wrapped in a Japanese silk towel, thus being completely separated from the abdominal wall. They remained united to the animal by the aorta and vena cava. 3. The thoracic cavity was opened and the mammary vessels clamped. Then the thorax was severed longitudinally and the diaphragm completely separated from the thoracic wall. Artificial respiration was established. The anonymous arteries were tied and the animal died. The superior vena cava and the azygos vein were tied and cut. The vagus, sympathetic and phrenic nerves were severed. All the posterior branches of the thoracic aorta were cut. Generally the heart pulsated weakly and the blood-pressure was very low. 4. Then the thoracic and abdominal viscera, united through their blood-vessels, were removed from the cadaver of the animal and placed in a trap containing Ringer's solution, at about 38 C. Ordinarily the heart still pulsated slowly and regularly, but the blood-pressure was very low, the arterial pulsations weak and the appearance of the organs very anemic. A careful hemostasis of the small vessels was made. After a few minutes the blood-pressure rose and, in a few cases, became almost normal. Generally a blood transfusion was made from the carotid artery of another cat

to the inferior vena cava of the visceral organism. Then the lungs became pink, the blood-pressure was higher than normal and the heart was beating strongly, from 120 to 150 per minute. The abdominal aorta pulsated violently and strong pulsations could be seen in the arteries of the stomach, liver and kidneys. Peristaltic contractions of the stomach and of the intestines were observed. If, a few minutes after the transfusion, the pressure was still above normal, a quantity of blood was allowed to flow from the lower part of the abdominal aorta. Then the appearance of the viscera was the same as the viscera of a normal animal. 5. The visceral organism was placed in a tin box filled with Ringer's solution, covered with thin Japanese silk and protected by a glass cover. The tracheal tube and the esophageal tubes were then fastened to proper openings in the anterior wall of the box. Artificial respiration was carried on by a continuous current of air interrupted ten times per minute." The viscera were functioning normally, the heart pulsating, the intestine contracting peristaltically and the stomach digesting in the successful cases. After five or six hours intestinal hyperemia appeared and it seemed as though peritonitis developed progressively. While in some cases death occurred almost suddenly in three or four hours, in most life continued even ten or thirteen hours. The death of the visceral organism was announced by weakened heart action with later sudden stoppage. In the last experiment organic death occurred thirteen hours and fifteen minutes after that of the cat from which the organs were taken. While still greater success may be obtained with improved technic, as it is the method can be profitably used in the study of many chemical and physiologic problems.—*Med. Record.*

CRANIOTABES AND HEREDO-SYPHILIS.

Leroux and Labbe (*Ann. de med. et chir. infantile*, August 15th, 1912) have investigated 32 cases of craniotabes with regard to its etiology. They found heredo-syphilis alone or associated in 17, heredo-tuberculosis in 5, heredo-alcoholism in 2, other hereditary influences in 3, and unknown antecedents in 5. The authors conclude that craniotabes is an osseous dystrophy due to several causes, among which heredo-syphilis plays a prominent part, but they remark that its etiology is practically the same as that of rickets. It occurs chiefly in prematurely born or debilitated infants affected by dystrophic heredity, whose nutrition has suffered during pregnancy. The preponderance of syphilis in the antecedent history, therefore, seems due to this infection predisposing to rickets.—*British Med. Journal.*

CHRONIC PANCREATITIS.

The problem of the pathogenesis of disease of the pancreas is taken up by J. B. Deaver, Philadelphia (*Journal A. M. A.*, January 4), who first remarks on the well-known frequency of pancreatic involvement in disease of the biliary tract. In ninety-nine cases of cholelithiasis operated on by him in 1911 there was some alteration of the pancreas in forty-five, and from this experience and that of others it would seem a natural inference that the pancreatic disease was secondary to the biliary disorder. There are certain objections, however, to this. Pancreatitis is more common in males and gall-stone disease in females, though the anatomy and mechanism of the parts are identical in both. Again, the pancreas is often diseased without demonstrable disease in the biliary tract. This was the case in 36 per cent. of the cases of chronic pancreatitis and 25 per cent. of the acute cases in a series analyzed by Deaver. There are three other possible avenues of pancreatic infection: through the general circulation, by contiguity from adjoining tissues and through the lymphatics. Infection through the systemic circulation is not often observed. It is rare in the systemic and pyemic processes and the conditions are not characteristic of bacteriemia. Infections by direct contiguity occur often in slowly perforating ulcers of the stomach and duodenum and the infection is then usually only local. It is to the lymphatics, he thinks, that we must look for the real source of pancreatic infection. Unlike certain other organs, the pancreas possesses no great hilum through which pass the blood-vessels and lymphatics. The lymphatics emerge through various points along its surface, and this will account for the diffuse inflammation and irregular inflammatory swellings so often observed. Deaver thinks it certain that this pancreatic lymphangitis (Arnsperger) is a forerunner of serious alterations in the parenchyma and stroma. When chronic pancreatitis has reached the stage of interlobular and intracinacinar fibrous deposits it is practically incurable, but in its incipiency, like lymphangitis elsewhere, it may be cured by the removal of the primary source of infection. Deaver remarks on the difficulties of diagnosis in this stage. Hence the importance of treating the abdominal disease which may produce it. He has not found the Cammidge reaction of value as an early test of pancreatitis. He remarks here the possibility of cancer being due to former pancreatitis and reports an illustrative case. In case of biliary disease thorough drainage of the gall-bladder may also cause the disappearance of the pancreatic involvement. Where jaundice exists in pancreatitis the opening of the common duct and the passing of a sufficiently large probe to secure full dilation of the duct and the opening of the papilla of Vater is essential in all cases. In conclusion he says the causes of pancreatitis must still be studied with an

open mind, and particularly as to its relation to chronic inflammatory diseases of the alimentary tract that result in retroperitoneal lymphangitis. The treatment is promising in the early stages, when it can be directed to the organs primarily involved. "Finally, pancreatitis is common and not rare; that its presence should be suspected in all cases of obscure upper abdominal indigestion, and, like other chronic inflammatory lesions of the abdomen, when it is uninfluenced in a reasonable length of time by medical measures it should receive surgical attention along the lines here proposed."

TACHYCARDIA.

Dr. C. E. Lea, Manchester, described four cases of auricular tachycardia. The first patient was a woman aged 40, who had typical mitral stenosis. There was a history of rheumatism, and she had an attack of paroxysmal tachycardia, arising in the auricle and persisting until death four days later. The pulse frequency was 150 to 160, and a tracing shortly before death showed the heart was passing into a state of fibrillation. During the tachycardia the patient was very prostrated, had intense thirst, and complained of great weakness. The second was a woman aged 50, who had what was thought to be a malignant condition of the throat, but it was acute lymphocythaemia, involving mainly the glands. A week before death the pulse-rate was 180 per minute. Here also there was great prostration and thirst. The third was a man aged 60, who was admitted because of dropsy and shortness of breath. He had had a healthy life and had not suffered from rheumatism. On admission the pulse-rate was 135, but 10-minim doses of digitalis three times a day brought down the pulse-rate in a short time to 80. It became a case of auricular flutter, and the auricular beats numbered about 260 per minute. The fourth was a man aged 50, who was in hospital as an ordinary case of cardiac muscle failure. He had had no rheumatism nor sclerosis. His pulse was noticed to miss occasionally at the wrist. In the last eighteen months he had not been free from the attacks more than three months at a time. The administration of digitalis improved him quickly after each attack.—*British Medical Journal*.

TUBERCULOSIS AMONG SCHOOL CHILDREN

In the campaign against tuberculosis no part is of greater importance than that of safeguarding school children against infection. Philip of Edinburgh insists that if the tide of tuberculosis is to be stemmed the child must be so reared that he will be immune to infection, and that, in fact, the problem of the prevention of tuberculosis resolves itself into the problem of properly caring for the child.

Nietner, General Secretary of the German Central Committee for the Prevention of Tuberculosis, recently delivered an address on tuberculosis in childhood at the Medical School of the Royal Hospital for Diseases of the Chest, London, in which he dwelt upon the vital importance of school medical service, co-operation of teachers, care of teeth, and school hygiene in the waging of the campaign against the disease. He was especially emphatic as to the importance of the role of the school physician in such a campaign and was of the opinion that the office of school doctor should be a whole-time appointment, and only in exceptional cases a part-time duty, and the school medical service should be made general throughout a country. He believed that the colleges for teachers should also be included in the school medical service, as well as the trade schools. He pointed out that while it is the children belonging to the lowest classes who chiefly call for medical supervision in the elementary schools, in the higher schools it is the age of puberty which is chiefly associated with pathological phenomena, for which fact a too arduous program of school work at a period of active physical development must be held, at least, partially responsible. Nietner's paper was for the most part a description of the thorough way in which Germany is endeavoring to cope with tuberculosis in children, and as such is worthy of the attention of other nations who are not yet equipped for the fray so adequately as is Germany. There is no doubt that the problem of tuberculosis is above all the problem of tuberculosis in childhood.—*Medical Record*

SURGERY

UNDER THE CHARGE OF A. H. PERFECT, M.B., SURGEON TO THE
TORONTO WESTERN HOSPITAL

SURGERY OF THE BONES AND JOINTS.

Dr. John B. Murphy, of Chicago, delivered a lecture before the Third Clinical Congress of Surgeons of North America, which is summarized as follows by the *New York Medical Journal*:

We may divide the subject of the surgery of the bones and joints into five groups for discussion as follows: 1. Fractures in the most dangerous positions, near joints; 2, ununited fractures; 3, the reproduction of bone; 4, the arthritides—neglected or mismanaged cases; 5, the repair of the evil results of the arthritides.

One of the commonest fractures near a joint is the Colles's fracture of the wrist. This fracture is, as a general rule, fraught with evil results, owing to the failure to accomplish its reduction. Reduction is not made because the two fragments are serrated and hold one another

firmly. It can be accomplished readily if the deformity is markedly increased, that is, if the fragments separated by dorsal flexion of the wrist; then by making downward traction with palmar flexion the lower fragment comes into perfect position where it will be spontaneously maintained. If the reduction is thus done and is complete, it matters not how the further treatment is carried out, for no dressing is really required, as the muscles hold the bones together and the serrations prevent their slipping. Pott's fracture is another which is not properly reduced, but the greatest source of failure is not this deficient reduction, but the lack of efficient maintenance of the position after reduction. The important feature of Pott's fracture is the rupture of the inferior tibiofibular ligament. This must heal without lengthening, for lengthening results in lateral mobility of the joint with ultimate breaking of the proper support, and the patient finally comes to walk upon his internal malleolus. Proper reduction is to be accomplished by over-reduction of the fracture and its fixation with the foot in the extreme position of adduction. When the fracture is complicated by a fracture of the inferior and posterior edge of the tibia there is a luxation of the foot backward. Reduction by traction of the foot forward is impossible, but if the deformity is increased by plantar flexion of the foot, the upper surface of the astragalus becomes a skidway and the foot will readily slide forward into position. Further reduction of the Pott's fracture is the same as has been described. The foot is to be fixed in supreme adduction and flexed, dorsally, to an acute angle with the leg.

Impacted fractures of the tuberosities of the tibia must be treated by converting them into complete fractures, and fixing the leg in a position of abduction or adduction, as the case may be, depending upon which tuberosity is injured.

There are three factors which introduce difficulties into the treatment of fractures of the neck of the femur. They are: 1. The difficulty of securing immobilization; 2, the interposition of the torn capsule, or of some other soft structure between the fragments; 3, the possibility of absorption of the neck. The first can be overcome only by mechanical means through an open operation. The second also requires an open operation. The third cannot be foretold except by radiographical observation, when, if the fracture is near to the head, absorption is likely, while if it is near to the shaft of the bone such a result will not follow. The occurrence of absorption can be obviated by open operation, also by fixation of the small fragment to the large after the freshening of the ends of both so as to bring the small bone into contact with living osteogenetic tissue. If this is done recovery will be perfect. The fragment will be absorbed when the fracture is near the

head because the blood supply is thus cut off, for it is to be remembered that the vessels which nourish the bone pass down into the neck and then turn back toward the head to supply it. In fractures of the neck of the femur the legs must be put up in "superlative double abduction," by which it is meant that both lower extremities are to be abducted as far as possible, and thus fixed. It is impossible to abduct one leg and maintain it in this position.

In the regeneration or transplantation of bone there are two points which it is essential to observe. First, the operation must be absolutely aseptic, and cannot be done in an area of inflammation. Second, the fragment to be regenerated, or the transplant, must be brought into intimate contact at some one point with freshened living bone to supply the osteogenetic properties. Transplants and separated fragments ultimately become totally replaced by new bone which follows in along the old Haversian canals. Osteogenesis will fail unless contact is had with living bone!

We cannot make use of the ability to replace bone for the following purposes: 1, To replace dead bone; 2, to replace diseased, but by a non-malignant process; 3, to restore bone destroyed by infectious processes; 4, to replace bone removed for malignant growth. In all these conditions, it is best, wherever possible, to preserve the original periosteum of the diseased or removed bone. If this is done the new bone which follows along the transplant will ultimately grow to assume the form of the original normal bone which it was intended to replace. Subsequent to the restoration of bone by implantation it is both possible and advantageous properly to implant the muscles of the part into the new bone.

Passing on to the discussion of the arthritides, there is a strange difficulty in getting the average surgeon or physician to accept the view that every nontraumatic joint inflammation is a metastatic process. The common acute arthritis called rheumatism is metastatic just as much as is a pyemic joint. The reason for the failure of this idea to gain acceptance is, that in the case of rheumatism the primary focus of infection may not be observed, or it may have disappeared prior to the development of the arthritis. There is a curious inconsistency in the fact that if there develops an acute joint inflammation without a chill it is called "rheumatism," if it comes on with a chill it is "pyemia." either in the synovial membrane itself or in the ends of the bones. This is the reason for the inability to obtain the organisms in cultures taken from the joint fluid, even where pus is present.

The development of the joint metastasis never occurs at once after the primary infection, but always requires a period of incubation. In the case of the gonococcus this is from eighteen to twenty-two days,

the streptococcus of grippe from eleven to thirteen days, for typhoid eighteen days or more, and in other infections the time is constant for each variety of infection.

The treatment of these acute metastatic joint infections, with pus development, must be immediate and thorough if the joint is to be preserved as a motile structure. The infection and destruction of the synovial membrane may develop in the short time of twenty-four hours to such an extent that the resulting healing will lead to complete ankylosis. Not only does the inflammatory process itself destroy the membrane, but the pressure within the joint hastens this process to a very great extent. Hence the treatment must follow two lines, the tension must be reduced and kept low, and the infection must be attacked. The first is best accomplished by aspiration of the joint. This is adopted rather than incision, for if the synovial surface is exposed to the drying action of the air for more than a few minutes there results a destruction of the membrane which leads to ankylosis. In some instances it may become necessary to incise the joint and wash it out, in which case the joint must be closed completely and without a drain, if it is to be saved. Following the aspiration the cavity should be injected with a five per cent. solution of carbolic acid, iodine in one to 1,000 solution, or better a solution of formaldehyde, two per cent. in glycerine. Both aspiration and injection may have to be repeated several times. In all treatment of these acute joint infections the position of the joint must be carefully maintained so that should ankylosis result the limb will be useful and the deformity the least possible. The surgeon may not be able to prevent ankylosis, but he most certainly can prevent deformity, and for this he must be held absolutely responsible.

The directions for the treatment of acute joint inflammations of metastatic origin may be thus summarized: 1, Act at the earliest possible moment; 2, relieve the tension; 3, sterilize the joint, or increase the leucocytosis; 4, prevent deformity by the maintenance of proper position.

SARCOMA CELLS AND HEAT.

R. A. Lambert, New York (*Journal A. M. A.*, December 14), says that the eradication of cancerous growths from the body by other than surgical means will depend on the discovery of some vulnerability of the cancer cell which is not shared by the cells of the organism. Comparative studies on this subject have been rare in the past, but we now possess in Harrison's method of cultivating tissues outside the organism an easy means of studying normal and malignant cells under identical experimental conditions, and he reports the results of the use of this method with sarcoma cells. "The results show, first of all, that,

while both types of tissue exhibit the most active growth when incubated at from 37 to 39 C. (98.6 to 102.2 F.), cell wandering and multiplication takes place also at from 40 to 41 C. (104 to 105.8 F.). Temperatures above 42 C. (107.6 F.) were found to be distinctly harmful, and it was observed that the degree of injury sustained by either tissue is dependent on two factors—the height of the temperature and the duration of exposure. Stated summarily, the results of these comparative studies show that corresponding to any degree of temperature between 42 and 47 C. (107.6 and 116.6 F.) a ‘time of exposure’ may be found which will suffice to destroy sarcoma cells and yet allow connective-tissue cells to survive. For example: Connective-tissue cells survive a temperature of 42.5 C. (108.5 F.) for from twenty-four to forty-eight hours, while sarcoma cells are killed; connective-tissue cells are viable after six hours’ exposure to a temperature of 43 C. (109.4 F.), fifty minutes’ exposure to 46 C. (114.8 F.). The cells in sarcoma cultures receiving the same treatment are practically all killed.” Other experiments showed the same results with rat tissue. Sarcoma cells are to a certain degree hardy, as shown by the above figures, and it might be difficult to raise the temperature high enough to destroy them without injuring the body cells. Lambert does not offer this report to suggest a therapeutic measure, but simply to record a finding indicating the less resistance of malignant tumor cells than normal body cells to at least one injurious factor. He works with the idea that this line of study may possibly yet bring out some practical points for the attack on malignant growths on the body.

KIDNEY RESECTION.

J. H. Cunningham, Boston (*Journal A. M. A.*, January 4), gives an experimental investigation on rabbits to ascertain the influence of operative measures on the function of the kidneys. The suggestion for the study was given by the temporary anuria observed in a woman with single kidney who had been operated on for renal calculus. It was necessary to extirpate one kidney in the rabbits, taking the measurements of the other so as to later determine its compensatory enlargement and noting the time in which the rabbit’s remaining kidney voided urine. The remaining kidney was subsequently operated on, first after measuring, and a small portion of the kidney substance, from its greater convexity to the pelvis, was resected. The wound was closed in a certain number of rabbits with mattress sutures and the time passed before voiding urine noted. Drainage was established in a certain number of rabbits with a rubber tube and in others with gauze, the kidney wound being not entirely closed and the time noted when the kidney secretion was again established. It became evident from these experi-

ments that the operation of kidney resection on a healthy rabbit with only one kidney, though that is healthy and has undergone its maximum vicarious enlargement, does temporarily diminish the function of the organ, as shown by the fact that urine secretion ceases for many hours. In the rabbits in which drainage was used and the wound not closed the secretion was re-established much earlier. The escape of fluid was rather freer with rubber-tube drainage than with gauze. Cunningham does not offer explanation of the facts. In splitting the kidney the blood tension must be disturbed and it would seem that the tension should be greater when the wound was closed than when it was drained. Accepting the idea that kidney secretion depends on its blood tension as correct, there should have been a freer secretion when closed by suture than when drained, which is not in accordance with the results in these experiments. The possibility that the nervous system controls the secretory process and that this was more disturbed in the closed wound cases is suggested. Further investigations are promised on the kidney secretion in changes in blood-pressure and if possible with the elimination of the nerve influence.

CURE OF SARCOMATOSIS OF THE SKIN WITH THORIUM X.

Herxheimer (*Deutsch Med. Woch.*) first refers to the disrepute into which this resource has temporarily fallen as a result of certain fatalities. The author has used up to seven injections weekly each in twenty-five cases of severe dermatoses (mycosis fungoides, leucemic tumors, carcinoma, etc., and relates incidentally the following: Patient, a male aged 58, never really ill, who had recently noted several nodules on one side of the buttocks. The process diffused itself so rapidly that within a brief interval there were similar formations over the entire surface. Some of these grew as large as a half dollar, and they even appeared in the mucosa of the buccal cavity. The viscera were not affected and the blood state and general condition but little affected. Two trial excisions were made and the microscope appeared to show multiple sarcoma of the skin. Mycosis fungoides and leucemic tumors as well as so-called sarcoids could be excluded. As such an affection may be depended on to cause death the case was deemed one suitable for thorium X. A dose of one million Maché units were injected every eight days. None of the untoward symptoms said to follow the use of these injections in large dosage was observed. After the first three injections some of the lesions had disappeared and no new ones were in evidence. After seven injections hardly any evidence of tumor growth could be seen, even the pigment deposits which sometimes were left behind having ultimately vanished. The case may recur, and the treatment may fail outright in similar cases, but as it stands thus far the result leaves nothing to be desired.—*Medical Record.*

USE OF ARSENOBENZOL IN CONGENITAL SYPHILIS.

Fabre and Bourret (*Lyon Medical*) treated six pregnant women and eighteen infants with arsenobenzol. They conclude that in women acquiring syphilis or showing secondary symptoms during pregnancy one may suppose that the fetus is not yet infected and that the administration of repeated salvarsan injections, in dose of 0.25 to 0.3 gramme, is therefore clearly indicated. In cases, however, that have not recently exhibited any symptoms of syphilis, and in which the sole aim is to avoid interruption of pregnancy by premature expulsion or fetal death, mercury and iodides are to be given the preference over salvarsan, except in cases not bearing mercury well, those in which the ordinary measures have failed at a former pregnancy, or where medication must be concealed. In syphilitic infants, salvarsan was found to overcome rapidly pemphigus, all mucous patches, and chronic coryza. Its effect in improving the general condition was, however, far less constant. In cases not presenting any syphilitic manifestations except poor general condition, salvarsan should not be used unless mercury and iodides have failed. Where it is employed, its effects are evanescent; mercury and iodides should always be given afterward and the salvarsan not repeated until acute eruptive phenomena return. The authors recommend, in infants, intramuscular injections of neosalvarsan, 0.05 gramme, not into the most fleshy part of the buttock, but into the muscles covering the external iliac fossa. The needle is introduced to the bone, then withdrawn slightly, so that its point shall lie in the muscle. Since dressings at this area in infants cannot be kept clean, the puncture is merely covered with a little cotton, dipped in collodion.—*New York Med. Journal.*

SOME ECONOMIC QUESTIONS RELATED TO SYPHILIS.

Dr. Isadore Dyer, New Orleans, said he had employed salvarsan in a number of cases, and he had had no serious accidents, but he was still regretting that he was led to the indiscretion of employing a remedy which in his humble opinion had no advantage over other tried medications, properly administered, for syphilis. The States were deliberating the establishment of laws requiring health certificates before marriage licenses were issued. It was more important to protect marriage contracts by requiring treatment for such diseases as syphilis than it was to aim at a restriction on natural inclinations. Hospitals for syphilitic should be established in every State, not, as was claimed, as an incentive to vice, but as a deterrent. If syphilitics were required to be hospitalized for the treatment of their disease, it would reduce the occurrence of syphilis and would encourage proper treatment. The South had its peculiar problem in this regard with the negro population,

which it was hard to educate in sanitary or moral prophylaxis. The whole question of syphilis was alive in our present society, and needed the careful study of those interested in the future generations of our people. While treatment might be of great importance, of more importance was the study of the ways and means to educate the profession and the public in the care and in the prevention of syphilis and its consequences.—*Med. Record.*

IMPORTANCE OF THE RECOGNITION OF SYPHILIS IN CIRCULATORY DISEASE.

Dr. John T. Halsey, New Orleans, said the conclusions to be drawn from facts, indicated, *first*, that syphilis very frequently produced lesions of any portion of the circulatory system, and that it did so during the early stages. A routine Wassermann test should be and could be made in all such cases, nor was there any doubt that if this be done, much unnecessary suffering and disease would be prevented. *Second*, those who treated syphilis in any stage, but particularly in the early phases, should be on the lookout for evidence of disturbed circulatory function, and, when such was found, they should not be satisfied to treat the syphilis alone, but should treat the heart as well. The coexistence of circulatory disease and positive or presumptive evidence of syphilis called for energetic anti-syphilitic treatment, and it could not be too strongly emphasized that iodide of potassium alone was not sufficient. Such patients must be given mercury or salvarsan, the choice between which should be governed by various considerations.—*Med. Record.*

GASTRIC RESECTION AND GASTROENTEROSTOMY.

Dr. George W. Crile, of Cleveland, said in his personal experience, and that of his associates, Doctor Bunts and Doctor Lower, as well as the Lakeside Hospital records, they had notes on 420 operations that had been performed for gastric and duodenal lesions. Of these, 208 were performed for cancer; 204 for benign obstructions and ulcers, and eight for traumatic perforations. He could say that all duodenal ulcers were cured; congenital stenoses were cured; acute gastric ulcers treated by gastroenterostomy in the lesser curvature and the cardia were often disappointing, but resection cured. In cancer the cures depended upon the status of the lesion. Resection of gastric ulcer of the saddle type was not only safe, but the results were clinically good. Transfusion of blood in cases of hemorrhage, the mastery of the cobbler stitch in all parts of the operations, the performance of shockless operations on the principle of anoci association had now given an almost complete control over the operative results in gastric surgery.—*N. Y. Med. Journal.*

PERSONAL AND NEWS ITEMS

Ontario.

Dr. Horace Bascom, who has practised in Uxbridge for 20 years, has been appointed clerk for the County of Ontario.

Dr. Charles Hastings, M.H.O., of Toronto, was elected president of the Great Lakes Pure Water Association. The next meeting will be held in Toronto.

The county council has promised a grant of \$15,000 to the new hospital at Strathroy.

An ample apology has been offered to Dr. H. O. Howitt, M.H.O. for Guelph, by those who cast reflections on his public acts.

Dr. J. B. Coleridge was elected Mayor of Ingersoll.

Mr. and Mrs. George H. Pedlar have given \$10,000 for a new surgical wing to the Oshawa Hospital, in memory of their son, George H., who died two years ago.

The report on Toronto health handed out by Dr. Hastings, M.O.H., shows that 115 children died under the age of two years in December, 1912, from contagious diseases, of whom 102 were under one year old. The chief causes of death were congenital debility, premature birth, and broncho-pneumonia.

The optometrists and the osteopaths held meetings recently in Toronto. They are all "Drs." but from what university is not stated in any case.

The Kingston Medical and Surgical Society elected these officers: President, Dr. W. G. Anglin; vice-president, Dr. R. J. Gardiner; secretary, Dr. W. T. Connell; treasurer, Dr. G. W. Mylks.

The Toronto General Hospital proposes to follow patients to their own homes and give them medical instructions; and also to supply cripples with appliances.

A short time ago, a severe case of smallpox was discovered at the City Hall, Hamilton, in the person of one of the clerks. Dr. Roberts, the Medical Health Officer, ordered that the entire staff of the City Hall should be vaccinated.

The by-law for a grant of \$28,000 to the Guelph Hospital was defeated at the polls on election day. This throws a heavy responsibility on the shoulders of the trustees, who are now considering in what way to place the hospital on a sound basis.

Mr. W. E. Rundle, chairman of the Finance Committee of the Toronto General Hospital, announced that the trustees of the hospital have received a subscription to their new building fund of \$25,000 from Mr. Geo. H. Gooderham, M.P.P., and his wife, Mrs. Maud Northrop Gooderham.

Mr. J. W. Langmuir, of Toronto, who has been chairman of the board of the Homewood Sanitarium at Guelph for 30 years, was presented with an oil painting of himself at the annual meeting.

The death rate in Toronto from communicable diseases in 1912 was 24 per cent. lower than in 1911, according to figures given out by Dr. Hastings, Medical Officer of Health. In 1912 there were 363 deaths from contagious or infectious diseases, as against 434 in 1911. There were 156 deaths from diphtheria last year; 54 from scarlet fever; 52 from typhoid; 22 from measles and 79 from whooping cough, the last-named disease being epidemic.

The Board of Trustees of the Separate schools for Toronto have made a start with the medical inspection of the children in their schools, and when a case which requires attention comes under notice the Medical Health Officer will report upon the subject. Doctors have been appointed for the Wards as follows: Ward 1, Dr. Brown; Ward 2, Dr. Riley; Wards 3 and 4, Dr. O'Brien; Wards 5 and 6, Dr. Buck. The dental inspection of children has been productive of good results in the separate schools and has been in force for nearly two years.

A short time ago a young woman was subjected, in Brantford, to an examination in connection with the death of a child. As the result of the examination the charge was dropped. Her employers have taken the matter up for her, and legal action is now threatened against the police and the doctor who made the examination.

The death of a patient, ill with delirium, caused by escaping through a window, has again emphasized the need for a proper institution for such cases. Some time ago Toronto Council offered to furnish \$100,000 for a site, the Government to erect the building.

In the year 1910 Toronto had 588 cases of typhoid fever; in 1911 there were 385 cases; while in 1912 there were only 159.

Dr. R. S. Pentecost has located at 90 College Street, Toronto, where he will carry on a special practice in diseases of the eye, ear, nose and throat.

Two of Ingersoll's medical men met with accidents on 24 January at the same time and place. Dr. Counter, while driving into town, was thrown from the buggy when the vehicle swerved on an icy hill, and collided with a telephone post. Dr. Rogers, who was cranking his automobile, hurried to the rescue of Dr. Counter, slipped and fell on the ice, dislocating his left shoulder. He was also badly shaken up, while Dr. Counter was cut and bruised, as he alighted on the road on his head and face.

The University of Toronto will devote a good deal of attention in future to research work, and the subject of tuberculosis is to receive proper consideration in this onward movement.

A severe case of smallpox was discovered a few days ago in Berlin. Thorough isolation was instituted.

Very many mentally defective children have been found in the industrial schools. About 30 per cent. was found in the Victoria, and 46 per cent. in the Alexandra Industrial.

It is reported that a bill is to be introduced during the coming session to pay doctors for reporting infectious cases.

Quebec.

The press contained a short time ago the news that Dr. A. Judson O'Neil, alias Dr. Edwin Smith, of Franklin Centre, Quebec, was wanted on a serious charge. He had started a company there to manufacture pills for the cure of rheumatism, and induced a number of persons to invest in the concern. As the business did not pay as expected the doctor disappeared.

Dr. W. W. Chipman, of Montreal, was elected vice-president of the Clinical Congress of Surgeons of North America.

Dr. T. G. Roddick, of Montreal, has been made a vice-president of the 17th International Medical Congress to be held in London in August.

A hospital to cost about \$25,000 is to be erected by the nuns of St. Francis, at Limoion.

There is still a good deal of smallpox in Montreal and vicinity.

Some additional health inspectors will be appointed in the Province with the object of trying to control the spread of smallpox.

Up to 20 December, 1912, there have been reported in the province 971 cases of smallpox, and this is regarded as a very incomplete list.

A definite effort is to be put forward to reduce the infant mortality of Montreal.

Western Provinces.

Dr. McKay, Health Officer of Saskatoon, has been granted a year's leave of absence. He is going to travel and will give a good deal of attention to public health subjects.

The Sisters of Providence have opened a dispensary at Moose Jaw, and propose erecting a hospital to cost \$50,000.

It is expected that a hospital will be built at North Battleford.

There is an agitation for a municipal dispensary for the poor of Calgary.

Mr. Gunn, M.P.P. for Lac Ste. Anne, has advocated the Government give a subsidy to assist medical men to settle in very remote parts. There are places now without any medical skill.

The Medical Association of Edmonton has proposed that the city be divided into districts and that doctors designate in which one they would respond to charity calls.

Drs. D. Low, J. A. Cullum, and H. M. Stevens have been elected members of the advisory board of the Regina General Hospital.

Dr. E. H. Robeans, a well-known physician of Calgary, and for fifteen years Consul for Belgium, died there recently.

While H.R.H. the Duke of Connaught was laying the foundation stone of the Railway Mission House, the Duchess of Connaught touched a button and the corner stone for the Cottage Hospital at Davidson, Sask., 96 miles away, swung into its place.

The Vancouver General Hospital has received two donations of \$1,000 each.

The Government has made a grant of \$10,000 to the hospital at Port Alberni.

The Victorian Order of Nurses propose starting a hospital at Burnaby.

Maritime Provinces.

The sanitarium for tuberculosis at River Glade is nearly ready for occupation.

The Brooklands Hospital, at Sydney, was damaged by fire.

The Moncton Board of Health was particularly active last year, and the results were very gratifying in the prevention of contagious diseases.

From Abroad.

A hospital under the auspices of the Presbyterian Foreign Mission has been opened at Taipeh, Formosa. The building cost \$25,000 and will be under the control of Dr. J. L. Ferguson, assisted by Dr. A. A. Gray. Miss Elliott has been appointed to the position of head nurse. The hospital has accommodation for 75 beds. The opening was on the fortieth anniversary of the establishment of the mission by the late Rev. Dr. J. L. McKay.

Sir Thomas Boor Crosby, M.D., who has recently vacated the Mayor's chair of London, is still hale and well at the age of 83 years, and intends resuming his practice again. He sums up his method of living thus: I have never adopted any particular regimen. I take a glass of wine. I smoke a cigar. I eat what is put before me, but in moderation. I go early to bed, and insist on temperance in all things.

The inhabitants of the village of Roccagorga, Italy, held a riotous demonstration a short time ago, as a protest against the favoritism

shown pay patients over those who could not pay. The town hall had to be protected by soldiers, who had to fire at the mob before it dispersed. Several fell hit by the bullets. Two were killed and four wounded.

The British Government has triumphed over the doctors' opposition. A sufficient number of medical practitioners have accepted the terms offered in the insurance bill to enable the Act to go into operation. It is now hoped that the Government may relax the conditions somewhat and offer the doctors better terms. This the Government can now afford to do without losing its dignity, as it has overcome the opposition from the medical profession.

In Germany great advances have been made in preventive medicine. The subject of malaria is one that has received special consideration. The winter campaign consists in the discovering of the hiding places of the mosquitos in enclosed spaces or in the fields, and then destroying them by means of smoking-out, burning, or the application of chemicals. A national campaign against the mosquito requires the training of an efficient personnel, composed of disinfectors and street, country, and forest workers. The public press and the public officials should co-operate in the work. The campaign should be extended over two winter and four summer months. Only when this work is continued for a number of years does it offer any promise of success.

At the request of the Government of France, the Academy of Medicine has been asked to report on the advisability of compulsory reporting of consumption and the proper disinfection of the premises.

A meeting of the executive committee on the proposed memorial to the late Lord Lister in Glasgow was held on November 27th, when the principal business was to receive a deputation from the Royal College of Surgeons of Edinburgh for the purpose of discussing the practicability of co-operation between Glasgow and Edinburgh in establishing a Scottish national memorial. The deputation comprised Professor Cairn, Mr. George A. Berry, and Mr. Stiles. It was indicated that such a memorial might take the form of research laboratories.

The British Medical Association will hold its 51st annual meeting in Brighton. The presidential address will be given 22nd July by Dr. W. Ainslie Hollis.

The movement to secure a suitable memorial to the late Lord Lister in London is going on satisfactorily. A number of very liberal donations have been received, and an influential committee is at work. Lord Haldane said that the richest and the poorest were his debtors.

At the meeting of the Association of American Physicians, the president, Dr. J. George Adami, of Montreal, suggested that the association might take the initiative in a plan to have the Government

provide a building in Washington in which various national and international societies might hold their meetings and in which their archives might be safely kept. The association might also provide a medal which could be bestowed as occasion arose upon those who in the opinion of that body had made some advance of the first order in medicine. Also, for the same object, an annual lectureship could be founded as a means of honoring those who make notable advances in science.

A case has recently been decided in Illinois whereby an unlicensed person who made a diagnosis and imposed a charge for so doing, though giving no treatment, was held as having violated the medical law.

At the Gesellschaft der Aerzte, Vienna, Freund said that he had again to seek the indulgence of the members on a subject that he and Kaminer had brought before them some time ago. On that occasion it was shown that when the serum of an uncancerous person was injected into the site of a removed cancer the cancerous cells were destroyed, but if the serum of another cancerous person was injected into a similar site the cancerous cells were not destroyed.

The Jewish Consumptives' Relief Society, which has a membership of some 25,000, held its eighth annual meeting in New York on November 10, 11 and 12. At one of the sessions Dr. A. Jacobi made an address, and an illustrated lecture was given by the secretary, Dr. C. D. Spivak.

It is announced that as the result of a gift of \$2,000,000 by Mr. George F. Baker, president of the First National Bank of New York, an alliance has been effected between Cornell University and the New York Hospital.

Dr. Fenton B. Turck has moved his office from Chicago to 14 East 53rd Street, New York City. Dr. Turck is locating in New York as a director of a research laboratory founded to further the study of the cause and treatment of diseases of the digestive tract.

The Buffalo Medical Journal for December makes the following interesting statement: A trifle less than 65 years ago, in our issue of January, 1848, we were so impressed with the "novel event of a female medical student being in attendance at the Geneva College" that we were "led to state the circumstances * * * as follows: "Shortly after the commencement of the lecture session, the faculty received an application for the admission of a lady. The faculty submitted the letter to the class which unanimously adopted resolutions expressing their willingness that the applicant should be received and pledging themselves to treat her with respectful consideration * * * Nothing has transpired as yet to disprove the propriety of the action and, in so far as her presence has had any influence, it has been conducive

to a more strict observance of decorum than is usual with medical classes and any embarrassment which may have been felt by all parties has long since disappeared.'"

The British Royal Society has recently awarded a royal gold medal to Professor Grafton Elliot Smith, F.R.S., for his researches on the comparative anatomy of the brain. Dr. Smith has also been nominated a councillor of the society for the year 1913.

On November 6 there were presented to the College of Physicians, Philadelphia, portraits of the late Drs. John H. Musser, Isaac Hays, and Wharton Sinkler, with addresses by Drs. George A. Piersol, George E. DsSchdeinitz, and James C. Wilson.

Baron Ilkeston, a distinguished member of the House of Lords, died 31 January, at the age of 73. Before being created a peer, he was well-known as Sir Walter Foster. He served as Parliamentary Secretary to the local Government Board from 1892 to 1895. He was by profession a physician, and was the author of numerous works on physiology, especially in connection with heart disease. He obtained the honorary degree of LL.D. in Montreal in 1897.

The American Medical Association has appointed a committee to correspond with the British Medical Association looking to a joint meeting of the two bodies. The committee is composed of: Drs. A. T. Bristow, of New York; W. W. Grant, of Denver; G. H. Simmons, Chicago; T. W. Huntington, San Francisco, and E. J. Goodwin, St. Louis.

The population in the United States is now 91,972,267. There are 129,002 registered medical practitioners. This gives an average of one doctor to every 713 of the population. Under these circumstances it may be said that there are too many doctors in the United States.

The Australian Commonwealth has enacted a law whereby \$25 is paid for every registered birth when the mother is not a colored native. The object is to encourage a large birth rate.

Careful research and experiment have now established the fact that the Bardet-Gengow bacillus complies with Koch's law, and must be accepted as the cause of pertussis, or whooping cough.

Dr. Carl L. Alsberg has been appointed to succeed Dr. Harvey W. Wiley, as chief of the bureau of chemistry of the United States Department of Agriculture.

Dr. Charles Theodore Williams, of London, Eng., the distinguished authority on tuberculosis, died on 15th December. He was 74 years of age.

Statistics recently published show that the death rate of London for November, 1912, was 15.5 per 1,000 living. Among the several districts and boroughs, the highest rate was 26.8 in Shoreditch, one of the populous slums of the east side; and the lowest was 9.8, at Lewis-ham, a southern suburb.

Mirek's Annual Report is just to hand. It is full of information on many of the more recent preparations and on the use of the gland extracts. The volume should be on the table of every active physician. He will have many occasions to refer to its pages, and always with profit.

Professor Peter Redfern, who held the chair of anatomy and physiology for many years in Belfast, died on 22nd December, at the age of 91.

It would appear that some 10,000 practitioners in Britain have signified their willingness to act under the terms of the Insurance Act. Many are resigning from the British Medical Association to be free to accept positions.

The fight which the Journal of the American Association has carried on for the past eight years against patent medicines is now yielding good results, and the lay papers are beginning to fall in line with the efforts to suppress these preparations, many of which are very fraudulent in their pretences.

On 17th December Commissioner Lederle sent out notice that in Greater New York all physicians will be expected to treat cases of venereal disease coming under their notice. The Public Health Department will do a Wassermann test free of charge.

The Babies' Welfare Association, which began its work last June, has been converted into a permanent organization. Dr. A. Jacobi, of New York, is a leading spirit in the movement.

A New York surgeon states that of the six thousand trained nurses in that city sixty per cent. are Canadians, and states that the Canadian girl makes the best nurse in the world.

About one million births in Britain will come within the Insurance Act, at the rate of \$7.50 each. This goes to help the mother.

Morganroth has given to the world a cure for pneumonia under the name of ethylhydrocupreinhydrochloride.

One of the uses to which the Rockefeller Foundation will be put to is that of eradicating hook worm disease from the world.

OBITUARY

H. HERVIEUX.

Word was received in Montreal, 8th January, of the death on the steamer Rochambeau, which arrived at New York from Havre, of Dr. H. Hervieux, one of Montreal's most prominent and oldest physicians. The late Dr. Hervieux had not been in the best of health for

some time and left Montreal for Europe in the hope that the voyage would do him good.

On Saturday, December 4th, he took a turn for the worse and never recovered. His body was brought to New York and was forwarded to Montreal for burial. Mrs. Hervieux accompanied her husband on his last voyage across the Atlantic.

The late Dr. Hervieux was well known in Montreal, having his offices at 490 St. Denis Street, and was also a professor in Laval University.

ALEXANDER McKELVEY.

Dr. McKelvey, one of the best known doctors in Western Ontario, died at his home in Brussels on 29th December, 1912. He leaves a widow, a son (Dr. A. D. McKelvey, of Boston, Mass.), and a daughter, Miss Barabara, of the Paris high school staff. Deceased was a graduate of Trinity Medical School, Toronto, in 1878, and of the New York Post-Graduate Medical School. He had lived in Brussels for many years, having formerly practised in Fordwich and Mount Forest.

JAMES CROZIER.

Word was received on 27th December last, in Guelph of the death at Glenwood, Minnesota, of Dr. James Crozier, B.A., younger brother of Rev. H. Crozier, of that city. He took his arts course at the University of Toronto, and for about twelve years taught in high schools, most of which time he was principal of Listowel high school. He resigned this position to take up medicine, and took his medical course at Ann Arbor and Chicago. He practised about twenty-eight years at Glenwood. When attending the University of Toronto he was a member of the University Company (K) of the Queen's Own Rifles, and at the time of the Fenian raid in 1866 he was in the thick of the fight at Ridgeway, where his company lost several men.

W. J. WAGNER.

In the death of Dr. W. J. Wagner, 19 Gerrard Street East, Toronto, on 10th January, a highly respected medical practitioner has passed away. Dr. Wagner had been ailing for some months, but his death was in the end unexpected. The cause was a complication of arterial sclerosis and nephritis. Dr. Wagner was a son of the late J. P. Wagner, a well-known contractor in Toronto, and the builder of the Rossin House. He was born in Rochester, N.Y., in 1849, but lived nearly all his life in Toronto. He was educated at Upper Canada

College, and graduated in medicine from the Toronto School of Medicine in 1870. After practising for about a year in Rochester he came to Toronto, where he had been a general practitioner until his death. In 1874 he married Caroline Boeckh, daughter of the late Charles Boeckh, of Toronto. He is survived by his widow and five children. The children are: Dr. Charles J. Wagner, Mr. W. E. Wagner, Mr. H. L. Wagner, Mr. Norman Wagner, and Miss Henrietta Wagner, all of Toronto.

JOHN HARRISON O'DONNELL.

Dr. O'Donnell died in Winnipeg at the age of 69. He was a native of Simcoe County, Ontario, and graduated from Victoria College in 1861. He was a resident of Winnipeg for 43 years, and was imprisoned by Riel in the rebellion of 1869. He was for a time a member of the Provincial Senate. He was active in the public affairs of his city for many years.

J. F. J. PATTEN.

Dr. Patten, of St. George, Manitoba, died of heart disease at the age of 68. He was a graduate of Victoria College. He practised for a number of years at Jerseyville, prior to his settling in St. George, Man. He was highly esteemed by all who knew him. He took a keen interest in questions of general welfare for his town.

ELIZABETH SIMPSON MITCHELL.

Dr. Mitchell was the first woman licensed to practise medicine in the Province of Quebec. She graduated at Queen's University, Kingston, in 1888. She was a pioneer in women's work in medicine. She was well known in Montreal, where she resided for many years.

E. P. BOWLES.

Dr. Bowles, of Wolfville, Nova Scotia, died November 20th.

WOLFRED NELSON.

Dr. W. Nelson died in New York on 17th January. He was a Canadian and practised in New York. His remains were taken to Sorel, in Quebec, to the family plot there. He was a past president of the New York Canadian Club. He was born in Montreal in 1846. He settled in New York in 1900. He belonged to a number of learned societies.

JOHN ANDREW McLAREN.

Dr. McLaren died on 16th January, at his residence, "The Mountains," in Caledon. He was in his 52nd year. He was interred in Melville Church Cemetery.

W. R. CANN.

Dr. W. B. Nesbitt died at his home in Toronto on 31st January. of an attack of pneumonia after eight days' illness, on 19th January. He was 28 years of age, and was a native of Oshawa. He graduated in medicine from the University of Toronto in 1911. For eighteen months he was one of the house surgeons in the Toronto General Hospital, leaving it to begin his practice in October last. He was married two months ago to Miss Tremeer, of Toronto.

WILLIAM BEATTIE NESBITT.

Dr. W. B. Nesbitt died at his home in Toronto on 31st January. He was born on a farm in Oxford County 48 years ago. He took his preliminary education at Pickering College. He graduated in arts and medicine from the University of Toronto. During his student days he took a keen interest in athletic sports, and was very popular. Shortly after graduating he became engaged in business affairs and withdrew from medical practice. For some time prior to his death he was afflicted with serious heart disease.

BOOK REVIEWS

HISTOLOGY.

A Compend of Histology, by Henry Erdmann Radisch, M.Sc., M.D., Assistant Professor of Histology and Embryology in the Jefferson Medical College. Third edition, revised and enlarged, with 111 illustrations. Philadelphia: P. Blakiston's Son & Company, 1012 Walnut Street; 1912. Price, \$1.25 net.

Blakiston's quiz compends are all well known and as highly appreciated. They constitute a very valuable series of books. Each one is a monograph of convenient size and from the pen of a careful and competent author. The one on histology covers the ground well. This volume is well illustrated and clearly printed. The author is an authority upon the subject of histology. These volumes are all well bound and got up in uniform style. Though they appear to be small volumes, yet they cover the subject well. The style is condensed, but not obscure. All discursive matter is left out, and in this way the student at once gets at the real meat of the topic he has under consideration. The

present volume contains 363 pages. An author who knows his subject can say a great deal in 363 pages entirely devoted to one subject. We can cordially recommend this volume. It is a true *multum in parvo*, and a genuine *vade mecum* on histology.

CONJUGAL HAPPINESS.

On Conjugal Happiness, Experiences, Reflections and Advice of a Medical Man, by Hofrat Dr. L. Loewenfeld, Munich, translated from the third edition by Ronald E. S. Krohn, M.D., M.R.C.S.E., L.R.C.P., London: John Bale, Sons & Danielsson, Oxford House, 82-91 Great Titchfield Street, Oxford Street W. Price, 7s 6d net. 1913. Copyright.

This is a book that deals with the subject of matrimony in a sensible manner. In the introduction mention is made of one class who are guided by love only and overlook all the material considerations, and the other class who look to the material aspects of matrimony almost solely. Neither of these views is sound. The author sets out to lay down a sound basis for love and what elements enter into it to give it stability and permanency. It is interesting to read the theories of learned philosophers on this subject. All through the book there is sound advice and carefully drawn conclusions. The author points out that a wife is pretty sure to lose respect with her husband if she devotes her entire time and thought to domestic duties. On the other hand, she may go to the extreme of giving up her time and energy to social duties, the study of art and literature, and in so doing neglect her home. The wise course is between these extremes. Such topics as the health of the contracting parties, their social status, their income, habits of life, divorce, and many other points are discussed. A careful reading of this book leaves a favorable impression in one's mind. A difficult subject is handled in a rational manner, and all that is said is on a high plane.

INTERNATIONAL CLINICS.

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Article on Treatment, Medicine, Surgery, Neurology, Paediatrics, Obstetrics, Gynaecology, Orthopaedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to Students and Practitioners. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, and John A. Witherspoon, M.D., Nashville. Vol. iv, twenty-second series, 1912. Philadelphia and London: J. B. Lippincott Company. Price, \$2.25 per volume.

The present volume is a worthy successor to those which have already appeared. This issue contains articles on treatment, medicine, surgery, gynaecology, biography, economics of medicine, and insanity. The volume is well illustrated, and there are six colored plates. The articles are all good and give evidence of careful preparation. They

are of a practical character and specially calculated to be helpful in treatment. The therapeutic suggestions are numerous and stimulating. We can recommend this series of volumes as well suited for the doctor's library.

FOREST CONDITIONS OF NOVA SCOTIA.

Commission of Conservation, Hon. Clifford Sifton, chairman, and James White, secretary, by B. E. Fernow, LL.D., Dean Faculty of Forestry, University of Toronto, assisted by C. D. Howe, Ph.D., and J. H. White, Department of Crown Lands, Nova Scotia. Ottawa, Canada, 1912.

This report gives a good deal of useful information on the forests of Nova Scotia, and their value. It goes into the methods of conserving them, and points out the damage that has been done in the past by fires and careless means adopted in removing timber.

MISCELLANEOUS MEDICAL NEWS

SEVENTEENTH INTERNATIONAL MEDICAL CONGRESS.

The 17th meeting of the Congress will be held in London, England, from 6th to 12th August, under the patronage of His Majesty the King. H.R.H. Prince Arthur of Connaught will open the Congress in Albert Hall, at 11 a.m., August 6th. The officers are: Sir Thomas Barlow, president; Sir Dyce Duckworth and G. H. Makins, F.R.C.S., treasurers; Sir A. P. Gould, chairman of executive committee; and Dr. W. P. Herringham, general secretary. The central office is 13 Hinde Street, London W. The address in medicine will be delivered by Prof. Chauffard, of Paris; that on pathology by Prof. Paul Elelich; the one on public health by Rt. Hon. John Burns; Prof. Cushing, of Harvard, will give the address on surgery, and Prof. Bateson that on heredity. There will be 23 sections. These sections cover all the phases of modern medicine, and afford scope for the fullest discussion of every topic bearing upon the prevention and the cure of disease.

The qualifications for membership are members of the medical profession and scientific men who have been nominated by a national committee. These must make application and pay the fee of \$5 for Canada and the United States. Wives and daughters of members are admitted at half the fee. On receipt of the application setting forth the name, address and qualifications of the applicant, the central committee will issue a certificate of membership.

Titles of papers should be in the hands of the general secretary not later than the 30th April. They may be written in English, French, German or Italian. Papers announced later than 30th April will not

be placed on the agenda, and no contribution will be received later than 1st July on any consideration.

For the benefit of those attending we are able to announce that special transportation arrangements have been made with many of the Atlantic steamship lines, both Canadian and American. In general it may be said that superior accommodation at the minimum rate is being offered to members of the Congress productive of their cards of membership. So far the Canadian Pacific, Royal, Allan, North German Lloyd, and Hamburg-American lines have offered such terms, and we have reason to believe that others will do the same.

Those crossing the Atlantic this summer will assuredly find it to their advantage to go as members of the Congress, and to this end they may obtain blank forms of application for membership by writing to the secretary of the Canadian committee, Dr. W. H. B. Aikins, 134 Bloor Street West, Toronto.

Those who intend going to London will do well to communicate with the editor of *The Canadian Lancet*.

DAILY ROUTINE OF AMBROSE PARE.

J. G. Mumford says Pare "rose at four in the morning and went at once to his surgery, where he read and wrote until six; then he breakfasted on milk and dry bread. At six-thirty he began the reception of patients, who thronged to him until eleven o'clock, when he dined. After dinner he slept for a half hour, when he started forth on his rounds, on foot or horseback—surgeons had no carriages in those days. Often he visited the Hotel Dieu, where he operated and taught and where he wrote over the door: 'I dress the wound; God heals it.' He supped wherever chance found him—in some humble shop, at the hospital, the Louvre, rarely with his wife at home; then to his studies again, or to see more patients, and at last to bed, at midnight or long after."—*"A Doctor's Table Talk."*

HE CURED THEM.

The missionary smiled benevolently on the native tribes around him. "I will cure them all of cannibalism," he said hopefully. "They have treated me kindly so far, and I am sure I shall convert them all."

After being introduced to their chief he retired to the special hut the tribe had prepared for him, where he was shortly afterward joined by a native.

"The king has sent me to dress you for dinner," said the man.

"Ah!" smiled the missionary. "How thoughtful of him. You are the royal valet, I suppose?"

"Nope," replied the native, "I'm the royal cook."—*The Honolulu Gazette.*

AN ODE TO A SURGEON.

The following verses were addressed to a Toronto surgeon with some bottles of sparkling cider on the anniversary of an operation which saved the writer's life:

'Tis just a year, this first of June,
 You took me then, and none too soon,
 From months of agony endured,
 Some said I never could be cured.
 An M. D. had me in seclusion,
 Said my ailment was delusion,
 For appendicitis, worst of ills,
 He gave me naught but soothing pills,
 A cold wet sheet around me thrown,
 Might ease a dipsomaniac, I own,
 For me each night an awful dose, sir,
 But this, said he, is done by Osler,
 (The baronet, the M.D. quoted,
 You know for chloroform is noted),
 Two walks each day, in open air,
 Nearly killed me, I declare—
 Crazed with pain one day alas,
 I screamed, "Can I have swallowed glass!"

I've diagnosed, the M.D. said,
 All this disease is in her head,
 The effects of drugs, you know, cocaine
 Will crack the very strongest brain,
 Now to an asylum she must go,
 Thus was I plunged in deepest woe.
 A friend then called, said (with a sigh)
 "You transact business well as I,
 To this M.D. will not agree,
 For every visit brings a fee.
 If he says that you're insane,
 There's something wrong with his own brain,
 His diagnose is wrong, 'tis really dull,
 He had a fall and hurt his skull,
 Now mark you, here's another point,
 He can't e'en set a finger joint,
 Deformed and crooked he did make it,
 And a surgeon had again to break it.
 My advice is get him out,
 Or you will die without a doubt."

I went to you, you were so kind,
 Said, "Nothing wrong at all with mind,
 As to harmful drugs—that's lies,
 I know it by your face and eyes.
 But for you I deeply feel,
 Your blood is poisoned from head to heel,
 You've appendicitis, I doubt it not,
 Something like glass, you say, cuts you on that spot."

E'en after this the quondam M.D.
 Conspired and tried to maltreat me,
 He made a confrere his apprentice,
 Par nobile fratrum, branded me, "Non compos mentis."
 Thank God and you and your small knife
 I now enjoy best health and life,
 Feeling each day strong and well,
 I do not wish all quacks in "Blankety Blank,"
 But when you sip from out each bottle,
 Just wish some charlatans may throttle,
 Your skill saved me—friends say that;
 You say, I've more lives than any cat.

—Victoria Memorial Hospital, June 1st, 1910.

COMMUNICABLE DISEASES IN ONTARIO.

The number of cases and deaths from communicable diseases in the Province for the month of December, as indicated by reports received by the Provincial Board of Health, shows a considerable increase over the same month in 1911. There were 1,239 cases reported and 163 deaths, compared with 1,089 cases and 144 deaths for 1911. Whooping-cough is still prevalent. There were 103 cases as against five a year ago, and 13 deaths as against one. Tuberculosis cases were 191, compared with 113, and 90 persons died as against 68 for December of 1911. Measles also show an increase of 213 over 112, with four deaths over two a year ago. The other diseases are:—

Disease.	1912.		1911.	
	Cases.	Deaths.	Cases.	Deaths.
Smallpox	51	0	41	0
Scarlet fever	252	8	264	19
Diphtheria	316	17	355	31
Typhoid fever	111	29	197	21
Infantile paralysis	1	1	0	0
Cerebro-spinal meningitis .	1	1	2	2

THE WHITE PLAGUE.

Recently there was a list of the different occupations represented in tuberculosis patients given in a Toronto daily. Almost the only trade or profession not mentioned—in plenty, was that of steeple-jack, but, no doubt, that active fellow has no time for consumption. I noted among the larger figures that bookkeepers (120), clerks (104), domestics (169), housekeepers (?) (1,180), laborers (343), and, sadly enough! school children (298) are sufferers. Teaching school also comes high, the number of school teachers who are (or were) consumptives, reaching (119.) But perhaps the most astonishing item on the list is that of Canadian farmers (308). There are 35 doctors on the list, 98 tailors, 16 clergymen, and but one journalist.

VIOLENT DEATHS IN TORONTO.

In one way at least Toronto is paying a heavy penalty for the growing complexity of its metropolitan life, and the increased speed to which its traffic and commerce are being set. The addition to the population of the city during 1912 is given as being about 30,000, or about 7 per cent. But the number of violent deaths in the city increased over 50 per cent. This table of violent deaths is worth considering, though figures for 1911 are not complete:—

	1912	1911
Murders	5	—
Child murders	13	—
Suicides	36	26
Killed by trains	35	19
Killed by street cars	12	19
Killed by autos	10	6
Electrocuted	9	6
Killed by elevators	12	4
Gas poisoning	31	15
Drowned	25	24
Burned to death	20	—
Deaths from falls	25	—
	<hr/>	<hr/>
	238	128

Estimating Toronto's population at 400,000, the suicide rate is 8.75 per 100,000, as compared with 10.3 by Maryland, the American State with the lowest suicide rate in the Union. New York has a rate

of 16, Chicago 20, Seattle 32, and 'Frisco 44 per 100,000. Again, Toronto has a murder rate, if infanticide be included, of nearly 5 per 100,000. The average over the registration area of the United States is 4.3, and in England and Wales it is 0.9.

KING EDWARD MEMORIAL FUND.

The King Edward Memorial, the million-dollar fund for the care of consumptives, has been raised. The million includes \$400,000 already subscribed, \$200,000 voted by Toronto ratepayers and the \$400,000 which the trustees undertook to raise. The full \$400,000 has been promised, and more. More than half of the city grant will go to liquidate a debt of \$104,000 on new buildings at Weston replacing those destroyed by fire. The million-dollar fund will permit the trustees to properly care for 400 patients at Weston and Gravenhurst. The trustee who spoke to the press said the association could use all the money sent in, even though the memorial had been raised.

Speaking of the generous response of the friends of the work, also the vote of the ratepayers on New Year's Day, the trustee mentioned several special sums which had been given. Perhaps the largest individual amount was one hundred thousand dollars from Lord Strathcona, who has been a leader in the fight against the white plague, and is still active in the work.

SHAKESPEARE'S ALLUSIONS TO SYPHILIS.

Sir Henry Morris states that there is ample evidence that during the Tudor and the Stuart and Commonwealth periods of English history syphilis was rampant in England as well as in France and Italy. It is significant for proof to quote Shakespeare in regard to the first, and Wiseman in reference to the latter periods. The word pox reminds one of the frequent use Shakespeare made of it. It occurs at least four or five and twenty times collectively in fifteen of his plays. He used it as a curse, or an imprecation of impatience or evil. Thus, Iago says to Roderigo, who talked of drowning himself: "A pox on drowning thyself." Sir Andrew in "Twelfth Night," referring to a certain knight who was a celebrated fencer, says: "Pox on't, I'll not meddle with him." In "Measure for Measure," Barnardine in his prison exclaims:

"A pox on your throats! Who makes that noise there?"

In "Love's Labor Lost" we find even ladies of quality—ladies in attendance on the Princess of France—making similar exclamations, such as, "A pox of that jest!" In "All's Well That Ends Well" a French lord in a camp near Florence says of a soldier: "Let him fetch off his drum"; and he is answered by another French lord:

"A pox on't, let it go, 'tis but a drum."

In "Two Gentlemen of Verona" the servant of one of the gentlemen says to him of the other: "A pox of your love letters." In "Henry IV.," in "Hamlet," in "Cymbeline," in "The Tempest," and other plays there is similar employment of the word, which is equivalent to the "Damn," or "Damn it" of the present day. This use of the word seems to prove conclusively that syphilis was very common in Shakespeare's day, and that the constitutional and local symptoms of the disease must have been quite familiar to the man in the street and to the ordinary person in society. It is quite obvious from the context of several of the passages in which the word occurs that it was the great-pox and not the smallpox which had given it currency and to which allusion was made. For example, in "Pericles, Prince of Tyre," the virtuous Marina, the daughter of Pericles, who had been taken captive by pirates and sold to a brothel keeper, is cursed in the following manner by a Pander of the Bawd, for not yielding her honor on the solicitation of the customers: "Now the pox upon her green sickness for me!" and the Bawd replies to him: "Faith, there's no way to be rid on't but by way to the pox." Shakespeare was quite alive to the pains of periosteal nodes, to tendon gummata, to ozena, to the loss of hair, to the voice changed by syphilitic laryngitis, and to the sallow, withered look of the skin of the face in late syphilis. He speaks of "a pox of wrinkles," and the makes Timon tell Phrynia and Timandra, in language which shows a considerable knowledge of the characters of secondary and tertiary syphilis:

"Consumption sow

In hollow bones of man; strike their sharp shins,

And mar men's spurring. Crack the lawyer's voice,

. down with the nose;

Down with it flat; take the bridge quite away

of him, that his particular to foresee

Smells from the general weal; make curl'd-pate ruffians bald;

And let the unscarred braggarts of the war

Derive some pain from you. Plague all;

That your activity may defeat and quell
The source of all erection."

—Proceedings of the Royal Society of Medicine, October, 1912.—
Medical Record.

DISCOVERY OF ANCIENT HUMAN REMAINS.

For some time past it has been an open secret that a discovery of the very highest importance, as regards the early history of the human race, had been made in England. There was also a general agreement that no mention of the event should be made in public until those who are investigating the geological and anatomical aspects of the discovery had finished their labors and laid them in a completed form before one of the learned societies—in this case the Geological Society. By some means news of this find reached the daily press, and the accounts published are largely imaginary. It may be stated, however, that there cannot be the slightest doubt as regards the authenticity and importance of the discovery, and that a new form or species of primitive man has been found side by side with the remains of animals known to occur only at a late Pliocene or early Pleistocene date. The remains found indicate a more primitive and much older type of man than has yet been found in England. For further details we must wait until the experts have published an account of their investigations. We believe the human remains thus discovered are to find a resting-place in the Natural History Museum at South Kensington.—*British Medical Journal.*

A ROYAL M. D.

The only royal doctor of medicine is ex-Queen Marie Amelia, of Portugal. Not only is she devoted to the healing art, which she studied with such success, but she is persistently successful as an exponent of hygienic dressing. Tight lacing is to her an utter abomination.

Though an exile, she spends something like three-fourths of her large annual income yet upon the poor of Portugal.

Her charities include experimental stations for the production of the serum of diphtheria, a dread disease much prevalent in Portugal; a model sanitary bakery for Lisbon slum dwellers; and a hospital and free dispensary for stricken women.

Florence Nightingale was a great friend of Queen Marie, and her Majesty often conferred with "the heroine of the Crimea" concerning her hospital work, and derived much aid from the practical counsel thus obtained.

THE WELFARE OF INFANCY.

Their Majesties the King and Queen have graciously lent their patronage to the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy. The foundation of this society is the outcome of a public meeting held last July at the Caxton Hall, under the presidency of Mr. John Burns.

Mr. John Burns is the president of the new association, while Sir Thomas Barlow is the first chairman of its executive committee. The latter consists of 12 representatives of statutory administrative authorities, 12 medical officers of health, 12 members of the medical profession actively engaged in clinical practice and 12 representatives of various societies actually engaged in carrying on work for the welfare of mothers and babies. It is confidently anticipated that local authorities and their medical officers of health will continue that active support and help in this great work which they have so readily given to the previous conferences. An earnest of the important work the newly constituted society proposes to carry on, it has already arranged to hold in London a post-graduate course on the feeding and care of infants. This course, which fulfills a long-felt want, will be held in London from the 6th to 16th January next.

The executive committee is now actively engaged in organizing an English-speaking Conference on Infant Mortality, which is to be held in London on August 4th and 5th next, a date which immediately precedes the International Medical Congress. In addition to expert authorities in England, delegates from the Overseas Dominions and America will take part in the conference, and it has been decided to hold it in two sections so that the subjects included in the programme may be dealt with both from the administrative and medical sides.

Further particulars with respect to the association, membership in which is open to all who sympathize, or of the post-graduate course and the conference may be obtained from Miss Halford, secretary to the association, 4 Tavistock Square, London, W.C.

MEDICAL PREPARATIONS, ETC.

HOLOTHEOL PRODUCTS BID FOR FAVOR UNDER DR. C.
EVERETT FIELD.

Scientific or business achievement frequently pay but small attention to personality because unfortunately there is but small sentiment in either, at times, however, the condition is changed and friendship holds its count. Dr. C. Everett Field, for many years head of the advertising department of the Kress & Owen Co., and newly elected as president of the Holotheol Chemical Company, of New York, is one of the few who has championed the cause of sentiment in business, and as a result there are a host of friends in both medical and drug circles who are wishing him every success in his new department of effort. Many years' experience in private practice and laboratory work, coupled with his knowledge of the drug business, particularly fit him in directing the course of pharmaceutical specialties compounded for physicians' use. Holotheol products are all allied to antiseptics; their formula originating with Dr. Field, and every phase of compounding being under his personal supervision, will at all times assure definite and dependable therapy.

Besides being connected with many educational and civic bodies, Dr. Field is a member of the American Medical Association, New York State Medical Society, Queen's and Nassau County Medical Societies, National Geographical Society, Advertisers' League, etc., etc. He is president and founder of the Peoples Forum and organizer of Temple Forum and many societies of the "uplife" kind among young men.

AN HISTORICAL MEDICAL EXHIBITION IN LONDON.

For the first time in 21 years the International Medical Congress will meet in London in the summer of 1913, and, in this connection, an exhibition of rare and curious objects relating to medicine, chemistry, pharmacy and the allied sciences is being organized by Mr. Henry S. Wellcome. The response to the appeal for loans has been most successful, with the result that probably one of the most interesting collections of historical medical objects ever gathered together will be on exhibition during the meeting of the Congress.

Among other interesting sections is one including the medical deities of savage, barbaric and other primitive peoples. Through the

kindness of friends, specimens of these have been forwarded from all parts of the globe, but there are still many gaps to be filled, and those who possess such objects, and would be willing to loan them, should communicate with the secretary of the exhibition, whose address is given below.

Amulets, talismans and charms connected with the art of healing will also form another prominent feature and any loans of this description would be welcomed.

In the section of surgery, an endeavor will be made to trace the evolution and development of the chief instruments in use at the present day, and it is desired to accumulate specimens of instruments used in every part of the world by both savage and civilized peoples.

In pharmacy and in botany special exhibits are projected, which will include models of ancient pharmacies, laboratories and curious relics of the practice of alchemy in early times. Specimens of ancient and unusual materia medica from all parts of the world will also be exhibited.

A complete, illustrated syllabus will be forwarded to anyone interested on application to The Secretary, 54a Wigmore Street, London, W., England.

POST-MALARIAL ANEMIA.

The invasion of the body of the red blood cell by the malarial plasmode means the partial destruction of some, and the entire obliteration of others of these vital elements of the circulating fluid. The invariable result is an anemia of greater or lesser degree, in direct proportion to the virulence of the infection and the resistance of the organisms to anti-periodic treatment. After the treatment directed to the elimination of malarial poison has been completed, the vital needs of the patient should be promptly considered. The resultant anemia should at once be combated by means of hematinic and general reconstructive medication. As a prompt and potent blood builder Pepto-Mangan (Gude) is especially indicated in such cases in view of the fact that it never disturbs the digestion, which is liable to be somewhat "below par" in cases of post-malarial anemia.

PHYLACOGEN.

Parke, Davis & Company, of Detroit, invite the medical profession to examine their file of cases treated with phylacogen. They wish to know of any cases treated by it without favorable results, as in this way they may ascertain its limitations and its contraindications. Excellent results have been secured by its use so far. The firm will be pleased to send printed information to any one desiring it.