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The Canada Lancet

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EDITORIAL

THE PREVENTION OF VENEREAL DISEASE.

The first step towards the prevention of venereal disease is correct diagnosis and facilities for treatment. It has been felt by most that it would not do to jump after reporting these cases as the essential thing. From the very nature of venereal diseases, they do not lend themselves very readily to reporting and registration.

The Academy of Medicine of Toronto has acted promptly in this important matter. A Committee was appointed which went into the matter carefully and formulated some resolutions which were adopted at a special meeting of the Academy. These have since been laid before the Provincial Secretary.

It is hoped that before long greatly improved arrangements will be brought into existence for the scientific diagnosis of these diseases, and the up-to-date laboratory facilities shall be furnished in various parts of the Province. Syphilis is now becoming a very common disease, and unless proper steps be taken, will commit terrible ravages in this country. Now is the time to act.

It is also hoped that arrangements may be effected for a cheaper supply of salvarsan. This would be an undoubted boon to the profession. Then, again, those who have charge of the laboratory work should receive a reasonable remuneration for their valuable services to the public, for there is no greater service possible to the State than the prevention of these diseases.

SCIENTIFIC MEDICINE AND THE WAR.

That scientific medicine has done its full share in the present war is known to the medical profession and the leaders of the army. Early in the war Sir William Osler wrote a pamphlet on the caption, "Bacilli

and Bullets." In this he sounded a clear note of thorough and adequate measures to safeguard the soldiers against all forms of infection, and especially that terrible curse of armies in the past—typhoid fever.

The Canadian troops were inoculated, either before they went overseas or in England. No ill results followed these preventive measures, so that there is no contra account to charge up against the good effects that followed. Now, what has been the benefit to the army? The latest word on this subject is the despatch from Mr. Stewart Lyon, Special Canadian Press Correspondent, who reports thus:

"As an evidence of the remarkable effect of the general use of inoculation against typhoid fever among the Canadian soldiers, it is announced that in a certain division through which about 75,000 men have passed in Canada, England, Belgium and France since the war began, under greatly varying conditions, only thirty cases of typhoid fever have occurred in two years and eight months, and one death. At present, it is believed that only fifteen men in the division are not inoculated. In the South African War two-thirds of the total number of deaths was due to this disease."

This is the simple story of science in the war. It is far more wonderful than any piece of fiction that was ever written. Indeed, it surpasses anything that Prospero thought of with his magic books, and aided by the spirit Ariel. Put this glorious achievement against the spurious systems of practice now before the public.

TO CHECK DRUG HABITS.

A bill introduced into the New York State Legislature is designed to control the use of habit-forming drugs. The principal features of the bill are as follows: (1) Establishment by the State of a dispensary system whereby the confirmed addict may get his drug pending treatment and cure. (2) A State check upon narcotic drugs ordered by druggists and doctors by means of a triplicate order blank, one copy of which shall be filed with the State Board of Health. (3) Registration of addicts with the State Board of Health, to the end that statistics on addiction may be gathered by the State and State aid offered. (4) Amendment of the existing law permitting magistrates to commit addicts to the care of a physician as well as to a State institution. (5) Provision against the sale of unmixed narcotic drugs under guise of compounded medicine (6) Amendment of the present law making illegal or forged use of physician's name or official blanks a felony. (7) Authorization of appointment of inspectors by the State Board of Health to enforce the statute.

LATEST CANCER STATISTICS.

Mr. Frederick L. Hoffman, chairman of our Committee on Statistics, expects to publish shortly in the "Spectator" newly tabulated data showing the mortality from cancer in thirty-five American cities for the period 1906-16. Mr. Hoffman is now able to report that against an average recorded cancer death rate of 87.8 per 100,000 population for the five years ending with 1915, the rate for 1916 has risen to 92.1. It further appears that every form of cancer shows an increase with a single exception of cancer of the buccal cavity for which the rate has remained unchanged. At first glance, however, there seems to be striking evidence of decreases or but slight increases in the local cancer death rates in many cities where the activities of the Society for the Control of Cancer have been most pronounced. Interpretation of these figures must be deferred until the publication in detail of Mr. Hoffman's new data, which will be awaited with interest.

HOSPITAL CARS.

An offer has been received by the Military Hospitals Commission from the Canadian Pacific Railway Company to transform six sleeping cars into hospital cars for the Military Hospitals Commission. This will make a total of sixteen hospital cars in the Commission's service, all of which will be available to transport invalided Canadian soldiers from the point of debarkation to their homes or to hospitals.

The Canadian Pacific cars will be used between Winnipeg and the Pacific Coast, while the Government cars wil lrun between the Atlantic ports of call and Winnipeg, although through trains will also be run if necessary. The C.P.R. cars like the Government ones, will be in pairs, one car containing eight cots, kitchen and accommodation for medical officer and nurses, while the other will be full yoccupied by sixteen cots.

THE SOLDIER AND THE WHITE PLAGUE.

A very interesting sketch by a soldier of what happens in a military sanatorium for tuberculosis has just been published by the Military Hospitals Commission. Rest, unlimited fresh air, and proper feeding of course play a large part in the treatment organized by the Military Hospitals Commission; but *exercise, carefully graduated, and interesting occupations are also employed with most valuable results in restoring the patient to health and energy of body and mind.*

Of the 3,480 invalided soldiers now being cared for by the Commission in Canada, 511 are suffering from tuberculosis, besides 94 remaining in English sanatoria.

All these 605 men were passed by medical officers as sound in wind and limb at the time of enlistment. Some of them, doubtless, in their eagerness to serve at the front, concealed facts which would have aroused the doctor's suspicions. Others did not know that their lungs were affected. It is often difficult to detect the trouble in its early stages.

In 223 of the 605, the disease was discovered before the men had a chance to go overseas. That is, it developed under no greater hardship than that of camp life—no more severe than the experience of a hunting excursion in the woods, which so many people undertake as a holiday recreation.

What does it mean, this discovery of 605 "consumptives" even among the picked men who should be above the average in health and strength?

It means this. The seeds of the disease have been sown in thousands of apparently healthy folk, and simply lie quiet till some new circumstance gives them a chance to spring up and attack the body infected by them. Then they give the man a fight for his life.

If there is one thing certain, it is that the disease can be stamped out.

This can only be done by combining prevention with cure.

Nearly all consumptives can be cured if the disease has not been allowed to get very far. And the example set by the thorough treatment now given to tuberculous soldiers should be followed in dealing with all others attacked by the disease.

So much for the question of cure. Still more important is the question of prevention. The seeds cannot grow if they are not sown. We must prevent them from being sown.

Those who have the disease can and must be taught how to avoid giving it to others. And all of us must learn to avoid those evil conditions of life which allow the seeds first to enter our bodies and then to germinate and attack us.

Good ventilation, sunlight, and good food thoroughly masticated and digested—with these on our side we can defy the enemy.

Now, more than ever before, it is urgently necessary to increase the health and efficiency of every Canadian, so that when peace comes we can make good the waste of life and health caused by the war. Unhealthy conditions of life and labor must be rooted out as deadly enemies of our country's prosperity. Such conditions exist both in town and country, though much worse in town.

Governments, municipal authorities, anti-tuberculous leagues, and all of us as private citizens, should act more energetically than ever, and perfect the efficiency of the methods used.

A little handbook entitled "Fighting Tuberculosis," by Lieut. J. R. Byers, C.A.M.C., who has charge of th etwo sanatoria at Ste. Agathe, has just been published by the Military Hospitals Commission for the soldiers concerned. Similar pamphlets have been got out by certain local organizations and insurance companies.

The seeds of safety, in such publications, should be spread as widely and cultivated as actively as the seeds of danger are now being spread and cultivated by our neglect.

NATURE OF FATIGUE TOXINS.

Ferrannini and Fichera (in La Reforma Medica) who have made earlier contributions on this subject, sum up their present article as follows: As a result of experiment special fatigue products have been shown to exist in muscular tissue, and these substances have a peculiar action upon the organs of the body. They depress notably the excitability, contractility, and force of striated muscle, prolong considerably the period of latency in contractions, and reduce notably the amplitude of the latter; the curve of fatigue is sensibly abbreviated and rendered irregular. The action of the heart is depressed in a twofold manner, because not only is the cardiac musculature acted upon directly but the action of the toxins upon the nervous system affects the heart indirectly. The frequency of its contractions is diminished and the microscope shows the presence of alterations in the myocardium. With the bradycardia is associated a lowering of blood pressure, so that there is cardiac insufficiency. The toxins also cause construction of the blood vessels as a result of action on the smooth muscle; the vasomotor nerves play little or no role here. The activity of the kidneys is augmented because the toxins irritate the renal elements. That the hepatic cells are also affected is shown by the microscope. Respirations are slightly increased in frequency and become correspondingly shallow. Combustion is markedly stimulated and the respiratory quotient is for the time being increased. The nervous centers are more vulnerable to the effects of poisons. There is some hemolysis due to direct action of the toxins on the red blood cells. There is no interference with natural hemolysis. Animals may be immunized to fatigue toxins in the usual manner, the antibodies being known as antikenotoxins.—Medical Record.

ORIGINAL CONTRIBUTIONS

INCIDENTS IN THE LIFE OF A PHYSICIAN.

By Sir James Grant, Ottawa, K.C.M.G., F.R.C.P., Lond.
President and Chief of Staff, General Hospital, Ottawa.

CARDIAC DISEASE.

IN 1860 a messenger from the lower part of the city called, stating Mistress So-and-So was ill, and wished me to visit her about 10 a.m. the following day, at which hour I arrived punctually, and was warmly received by two children, aged 7 and 10 years respectively. Their home had the appearance of comfort; tidy, clean and sanitary, and the two children the very essence of neatness, plain, simple and perfect. On inquiry, was shown to an upper room; patient in bed, weak, exhausted and almost unable to speak. Dilatation of right ventricle, tricuspid bruit, general dropsical condition, indigestion and albuminuria; in fact, so low and run down in 63rd year, the prospect of recovery was nil. On return to reception room found both children standing together, much excited and most anxious to learn the prospects. I stated their mother was very low and recovery doubtful. Their eyes filled with tears, and the younger child, who had her arms behind her back, suddenly drew them forward and said: "Oh, Doctor, if you will make my mother well, I will give you my Christmas doll." At this moment of profound silence, not a word was said, and shortly after this trying event, I left. Next morning, learned death had closed the scene quietly during the night—and such is life.

A Rare Confinement with the Saving of Two Lives.

On a wintry night, midst snow and frost, in 1872, I heard a vigorous rap at office door. A messenger stated I was wanted forthwith at a distant part of the city, where I arrived as soon as possible. The mother of the patient met me at her front door, and stated my visit was most important, as her unmarried daughter was about to be confined, and the father of the infant a leading man in Canada. Shortly afterwards the child arrived, without any trouble, both parent and offspring, a son, healthy and vigorous. The old lady stated she had several daughters and desired to protect their social standing by placing the infant in a home, or such like. Shortly afterwards, when comfort and quiet were established, I returned home. A few hours afterwards I was called to a confinement in a different direction of the city, the expecting mother had been married twelve years, and no family. So the coming event was a source of marked excitement, and prospective pleasure. In a few

hours the child was born, and greatly to my regret, death *in utero* had taken place fully two weeks past. This was a great shock to the mother, followed by active uterine hemorrhage, and threatened collapse. I sat by her bedside fully two hours, compressed uterus and administered stimulants freely, until uterine contraction was normal, and all perfectly comfortable. The following morning this patient received my first visit, and arrangements were then completed for a new and life-saving arrival, to which all parties gladly assented. This plan was carried out perfectly and safely and the first infant placed snugly and comfortably in the arms of the second mother, and nursed forthwith well and cheerfully in accordance with the abiding laws of nature—a perfect inspiration and a life-saving influence, thus at once established. According to a positive understanding, no inquiries would be made in future as to where the infant had gone, or where it came from, confidence being established by the standing and stability of the parties to this agreement. After some years, mother and infant removed west, and flourished. At 21 years of age this foster son sailed for Australia and delivered a course of lectures on Canada, as he possessed a high order of intellectual power. After a year's absence, returned to the State of Massachusetts, where he now occupies the worthy position of head, and chief, of a leading branch of the Young Men's Christian Association. This history is remarkable by the saving of the life of one mother and the reputation of another.

Croup on a Railway Sleeper and the American War.

In 1862 I took train for Washington, via Montreal and Rouse's Point, to form an idea of hospitals and armies during the American War. In the middle of the night I was aroused by a sharp, familiar croupy sound, from an infant near at hand. I at once rang a bell, called porter, and advised he should inform the mother, if possible, the infant was in a serious condition, and needed immediate relief to save life. The porter asked if I was a physician, and to do what I could for the infant, at the mother's request. Strange to say, a remarkable coincidence, I had a tiny bottle of tartar emetic in my vest pocket. At once prescribed for infant, and never saw either mother or child again, not knowing what had become of them. In 1912, a meeting of the Public Health Association of Canada assembled in Montreal, at which the Lady Superior, Russell Sage Foundation for Children in New York, was present, and delivered a most interesting and instructive address on "Child Life." Shortly afterwards I had the pleasure of an interview, and she inquired if I ever attended a case of croup, years ago, in a New York train from Montreal. I at once recalled the event, of fully fifty years ago, during the American War. She said "That infant is my sister, now most fortunate; the head and hope of our family; and frequently we

talked the matter over in hopes some day to learn how a kind Providence had come to our relief, and on behalf of our family in Washington, I now desire to tender our united thanks for a noble act of benevolence, such as a physician holds at times in his power."

At the American War.

On arrival at Washington, excitement was at a high pitch; soldiers moving in every direction, the result of a serious conflict in arms. At the close of this war, which lasted from 1861 to 1865, no less than 2,250 battles and skirmishes were fought, with a loss of life fully half a million. Ulysses Simpson Grant, of Scotch descent, was the typical hero of that great war. The object of my visit was to gain information on hospitals and the army of the Republic. The Union army at that date numbered fully 200,000 men, and the Confederate force 100,000 men, both sides expert, able and resolute. General MacDowell commanded in front of Washington with a column of 30,000 men, and attacked General Beauregard behind Bull Run, with an inferior force. Thomas J. Jackson in his heroic defence against the enemy earned honorably the name of Stonewall Jackson. This was a most serious and telling conflict, and for a time doubtful, until the arrival of 8,000 fresh troops on Union front and rear, turned the tide favorably. At the close of this battle many thousands were dead on the field, undoubted evidence of a sad conflict in arms, with victory beyond all doubt for the Union. At Alexandria, where I was at the time, hospitals, churches and many private residences were filled to overflowing with sick and wounded, and the rush and hurry after so close a conflict did not interrupt the able action of expert army medical officers; everything falling into line charmingly, and strictly in keeping with the progress of advanced military science. On August 5th, 1863, visited Grant's army before attack of General Lee, Valley of Shanandoah. The force under General Grant was fully 80,000 strong, a superior body of men, physically well built, active, expert, skilled in movements and most anxious for a fight. The black contingent was not suitable for front positions during battle, owing to irregularity under fire, so were placed in the rear. The large camp hospital in situ was charmingly arranged, sanitary in every particular, and abounding in all necessary stores and appliances for the force, supplied most generously, to the credit of the noble women of the Republic. At the close of this war, prisoners of the Northern Army in Andersonville, fed on the raw corn, were so reduced in body that the joints of the backbone could be counted by passing the hand over the abdomen. This remarkable contest in arms closed April 9, 1865, General Lee surrendering to General Grant at Appomattox, after retreat from Richmond and Petersburg, where he delivered a final address to a shattered force: "Men, we have fought the war together; I have done the best I could for you."

Thousands of young and vigorous Canadians joined the army of the North, fought and fell heroically on the same battlefields, with one object in view: "Preservation of the Union, and abolition of slavery," and what a power and influence exists this present time, encouraged as we are by the telling inscription on the tomb of General Grant, "Let us have Peace."

POINTS ON GENERAL ANAESTHESIA FOR THE SURGEON.*

By Samuel Johnston, M.D.

Anæsthetist to the Toronto General Hospital.

MR. CHAIRMAN and Fellows,—The Surgeon is very often obliged to operate under adverse conditions, having at times to work with unskilled assistants, and my remarks will be made in the hope of being of some help, when a surgeon finds himself in such a position.

First, I think every surgeon should be able to say what anaesthetic should be given for certain cases, and the manner administration, and to this end I will cite a few outstanding cases, which require special care.

Case A.—A patient suffering from intestinal obstruction, with fecal vomiting.

We find the patient toxic, suffering from profound shock, the radial pulse being imperceptible. In this case, nitrous-oxide is contra-indicated on account of increasing the embarrassment of respiration, which has already been impeded by distension of the abdomen, pressing on the diaphragm.

Ethyl-chloride is contra-indicated, because of the depressing effect on circulation, where there is already toxaemia and poor circulation, and chloroform would add more fuel to the fire, so we have only ether to resort to, which I consider the safest anaesthetic. This should be administered very carefully and slowly, on an open mask, and when the patient has reached the second stage of anaesthesia the stomach tube should be inserted, in order to allow the contents of the stomach to pass out. The stomach should be washed, and the tube left *in situ*. If during this procedure a towel is placed over the mouth and nose, surrounding the tube, a little Ether may be dropped on the towel, to prevent the patient from returning to consciousness. At this juncture the operation may be proceeded with, and if there is any regurgitation into the stomach from the intestine, it will have exit through the stomach-tube. If any of the contents of the stomach are already in the larynx, with a pair of forceps insert soft gauze into the throat to absorb what is there, and this treatment should be persisted in, until all fluid is eliminated. At the same

*Read at the Section in Surgery, Academy of Medicine, Toronto, 20th March, 1917.

time, only enough of the anaesthetic should be administered to keep the patient quiet, as this type of patient is already partially anaesthetised by the toxins and shock.

Case B.—Patient Suffering from Loss of Blood.

In this case, chloroform is contra-indicated on account of its depressing effect on circulation, where vitality is already very low.

Ethyl-chloride is contra-indicated, for the same reason, being next to chloroform in its toxicity.

We have left ether and nitrous-oxide and oxygen, to choose from, and of these two ether acts as a stimulant, but is more toxic than the nitrous-oxide and oxygen, In such cases as this, there is little embarassment in respiration (unless there is hemorrhage into the abdominal cavity) when ether would be indicated. Otherwise, nitrous-oxide and oxygen would be the safest anaesthetic, but asphyxia must be avoided.

Case C.—Patient suffering from pulmonary disease ,either chronic or acute.

In these cases one must be in a position to change the anaesthetic and the mode of administration at any moment. Respiration is already embarrassed and nitrous-oxide, ethyl-chloride, or ether may increase this condition. Chloroform is the least irritating anaesthetic, but as the circulation is usually very much interfered with and the heart muscle affected, it must be administered with extreme caution. Probably, better results would be obtained by adding a little ether to the chloroform and after the patient is anaesthetised with chloroform or a mixture of chloroform and ether, change to ether, as the irritation will be allayed and ether will overcome and depression caused by the chloroform. But if ether should produce irritation, nitrous-oxide and oxygen may be resorted to, or if this is not available, return to chloroform and ether mixture in order to complete the operation. It requires judgment in all these cases to know just when to change from one anaesthetic to another.

Case D.—Brain Surgery.

In cases of brain surgery patients usually take any anaesthetic fairly well. But it is essential that a patient should be anaesthetised, without having any congestion, and the choise of an anaesthetic will depend very much on the type of patient.

If the patient is plethoric, or has hardening of the vessels, it is better to begin the anaesthetic with either chloroform, or chloroform and ether mixture, and when the patient is past the stage of irritation, change to ether on the mask.

If, on the other hand, the patient is delicate and slight, anaesthesia may be induced with nitrous-oxide and oxygen and sustained with ether throughout.

Some surgeons prefer chloroform exclusively in brain surgery, for the reason that the blood-pressure is lowered by it, and consequently they

think less hemorrhage is produced. This contention appears to me a fallacy, as the action of chloroform produces such profound depression on the circulatory system, and affects the unstriated muscle in the walls of the vessels, so that there is not the same recoil, when a vessel is cut, and hence hemorrhage is more profuse. My opinion, gained from personal experience, is that it is not so much the drug that is used that increases the amount of hemorrhage, as it is the manner in which the drug is administered.

A striking example of the difference in the effects of the two drugs, ether and chloroform, is to be found in the practice of Obstetrics. A patient is much less prone to port-partum hemorrhage where ether is givein, than where chloroform is administered.

Danger signals:—

The surgeon should be able to recognize signs of danger, that may be developing, and be able to direct what should be done to obviate disaster.

For instance, with regard to breathing, if the respiration becomes faster and more shallow, or faster and deeper, under anaesthesia, there is some reason for this, and the anaesthesia should be discontinued until it has been ascertained as to whether this is due to too deep or to too light anaesthesia. If respiration is stertorous, it is an indication that the patient is not getting sufficient air. If inspiration becomes short and expiration prolonged, it is a very grave sign, as the patient is either too deeply under, or suffering from shock due to the operation, or both.

If the breathing becomes very quiet and shallow, although it may be regular, the patient is either too deeply or too lightly under. The anaesthetic must be discontinued, until the two stages are differentiated.

Sometimes the respiration will resemble chayne-stokes. This is always serious.

Noisy breathing, associated with cyanosis, shows that there is some obstruction of the air-way.

Laryngeal spasm may be caused by obstruction of some kind, or an irritable throat, or it may be due to too rapid administration of the drug, or it may be some impurity in the drug.

As to circulation, if the color changes from normal to purple, and from that to pallor, the pulse will soon change for the worse. If pallor alone is present, the circulation has become depressed, either from too much of the anaesthetic or from shock of the operation, or both. Pallor sometimes will occur, when a patient is too lightly under, owing to the vomiting reflex beginning to manifest itself.

If the ears or lips become pale, it is always a sign that circulation is failing. With these changes in color there is always a corresponding change in the pulse.

If the pulse becomes quick and small, or irregular, this indicates that circulation is being seriously affected. One cannot dissociate the color and the pulse. The former is the indicator of the latter.

With these changes in respiration and circulation, the pupil will also vary. Often, the first indication that anything is wrong will be shown in the pupillary reflex. If the pupil dilates widely, and the color becomes pale or livid, and the pulse changes for the worse, the patient is in a serious condition.

Sometimes the pupil will dilate widely although the color and the pulse may be good. This may be due to a reflex from the manipulating of the surgeon, the patient being too lightly anaesthetised.

In closing, I would like to say a word regarding the manipulation of the surgeon. Some surgeons appreciate more than others the importance of the bad effect produced on the patient by Trauma. A patient may be more profoundly shocked and have a much more trying convalescence, from an operation lasting only half an hour, where the intestines or other organs of the body have been roughly handled, than the same patient would have, should the operation last an hour or more, and the surgeon exercise gentleness throughout.

I might add that I am glad that some of the surgeons know enough about the art of anaesthesia to appreciate the difficulties that the anaesthetist encounters, and I hope the time will soon come when all surgeons will have so intelligent a knowledge of this subject that when surgeons themselves are embarrassed in their own work, in cases where the patient is not doing well under the anaesthetic, that they will not in turn embarrass the anaesthetist, but rather assist him, for it may mean the turning-point in the saving of the patient's life.

PITUITARY EXTRACT IN PREGNANCY AND LABOUR.*

By KENNEDY C. MCILWRAITH, M.B.,

Associate Professor of Obstetrics, University of Toronto.

Mr. President, Ladies and Gentlemen,—During the last four or five years extracts of pituitary gland have been so commonly used that a summary of clinical results begins to have some value. I venture to lay my own experience before the Association in the hope that it may prove of interest to the members.

I have used many of the preparations on the market, but in order to gain more definite ideas as to dosage, etc., I have now for some time used only Burroughs and Welcome's "Infundin," and the remarks in

*Read at the Annual Meeting of the Ontario Medical Association at Toronto, May, 1916.

this paper apply to the use of that preparation. In pregnancy and labour I give it by intramuscular injection, about an inch above the centre of a line joining the upper end of the gluteal cleft and an anterior superior spinous process of the ilium. A syringe with which a dose accurate to the minim can be given is essential, and the needle should be an inch long at least, and driven straight in, so as to reach the muscle. It is better to sterilize the skin with iodine before the injection. Patients usually complain of pain when the fluid is injected.

The uterine contraction usually comes on in about four minutes. The nature of the contraction excited is the first subject of discussion. It is claimed that the contractions are intermittent like normal labour pains, and not tonic, such as follow the injection of ergot. This is only partially true. If an injection of 1 c.c. be given to an ordinarily susceptible patient the uterus will, in due time, be felt to harden strongly. This strong contraction persists for a variable length of time, sometimes lasting as long as ten or fifteen minutes. Then slight remissions become perceptible ,and the contractions gradually become intermittent. Under stress of this long initial contraction I have marked the foetal heart-beat become slower and slower, and finally disappear altogether. True, it came back again, but the experience was not a pleasant one. So, too, I have seen an injection of 10 mm. given as the head was passing the vulva, cause a tonic and intensely painful post-partum contraction which could only be overcome by chloroform.

Bearing these facts in mind, then, we may proceed to the clinical uses of the extract.

It is often used for the induction of labour. The results are very variable, but one thing seems clear, namely that the farther the patient is from term the less easy it is to excite labour. So that it is not of much service in inducing premature labour. At or beyond term the susceptibility of patients varies greatly. Thus I have twice seen precipitate and extremely painful labour brought on by the injection of 1 c.c., the whole labour being over in an hour. In another case labour was induced and proceeded rapidly to a close after the injection of mm. iii. The same abnormal susceptibility was shown by the same two patients at subsequent labours. On the other hand a patient of mine recently had injections of 1 c.c. at a time for five doses without producing any result but an intense serum rash! In still another case labour started only after the injection of vii. c.c.

During labour the results of its administration are, in the main, very satisfactory, though instances of failure or of overaction are not wanting to impress upon us the necessity for caution. In multiparae, where no obstruction exists, one can anaesthetize the patient and give an injection of pituitary instead of using forceps; in labour lingering

from poor pains it answers very well. On the other hand its use in primiparae, where the soft parts are as yet unsoftened, has about the same effects as using the forceps prematurely; and to give pituitary in case of a labour obstructed by contracted pelvis is to court disaster.

Some of my colleagues advocate its use when the placenta is slow in coming away, and the results are often quite good. The danger of causing retention by this means must not be forgotten. I have often had occasion to note that if pituitary be given rather early in labour, the action it excites is apt to be followed by a period of reaction, and if this period of reaction comes soon after the delivery the result is apt to be a post-partum haemorrhage, owing to which you may be called back to your patient two or three hours after labour. In the treatment of post-partum haemorrhage my experience with pituitary has been unfortunate, as the patient seemed to be made worse rather than better. At the usual time after the injection, though the uterus contracted the patient's face would suddenly blanch, the pulse disappear and all evidence of collapse come on. I never saw a patient die in this way, but some have come very near to it. Post-partum I prefer to use ergot.

In connection with the use of morphine and hyoscine in labour, I have found pituitary of great service. When the uterus stops acting, as it sometimes does under the influence of the narcotics, the injection of a few minims of the extract has always sufficed to start the contractions again. I have been rather unwilling to use it in patients whose blood pressure was high from the toxaemia of pregnancy, but when I have done so I have not seen any untoward effect.

Where long and strong contractions are excited I have found that the child is apt to show sub-conjunctival haemorrhages; also, I think, a rather greater tendency to umbiblical and other haemorrhages of the new-born, and to atelectasis, especially in dry labours where delivery is slow. A serum rash is not very uncommon after its use, but this usually disappears on saline purgation.

In summing up I should say that pituitary extract is a potent agent, very useful when properly used, but capable also of causing damage if used carelessly. I should make the following suggestions:—

1. That where the susceptibility of a patient to its influence is not known the initial dose, at all events, should be small—say ¼ c.c. This can easly be increased if necessary.

2. That to primiparae, where it is desirable to dilate the soft parts slowly, it should be given in small doses only.

3. That where the waters have escaped before dilatation of the os, especially in primiparae, it should be given very cautiously, if at all.

4. That it should never be given in labour obstructed by contracted pelvis.

CURRENT MEDICAL LITERATURE

MOBILIZATION OF THE PROFESSION.

We have received a number of representations—some of the most urgent from Scotland—on the need for more effective means of equalizing the burden which the war has placed upon the profession, and of providing more adequately for the needs of the civil population, as well as of the military medical services. The remarks made by the President of the General Medical Council, to which we drew attention last week, have tended to cause many to give serious consideration to the matter. It will be remembered that after stating that he had been officially informed that the War Office would at once gladly engage 400 more medical practitioners if they were forthcoming, he went on to speak of the excellent work done by the central and local medical war committees in England and Scotland in assisting the profession and the Government to secure a proper allocation of the available medical men, having regard to the respective requirements of the military and of the civilian population. In this part of the address he appeared to have in mind mainly the withdrawal of medical men from civil practice to serve in the navy or army; but he went on to raise the question of what should be done in respect of those members of the profession who had failed to give their co-operation to the movement represented by the central and local medical war committees, and said that if the voluntary effort of the profession should on this account fail to meet all the requirements of the medical services we might have to face legislative compulsion. The chief enemy nation has decided to mobilize the whole nation for war. In this country events are clearly marching in the same direction, and the question which is exercising the minds of many members of the medical profession is whether it would not be wise and politic for the profession itself to consider the possibility—or, as some would say, the probability—of the need for the mobilization of the whole profession. We admit that the word "mobilization" is greatly in need of definition; but we take it to mean in principle that every medical man and woman should formally undertake to place his or her services at the disposal of the governing authorities of the country, to give such service, whether military or civilian, as may be indicated, and, if civilian, to render the service in any place in Great Britain. The need for the application of this principle of general mobilization of the whole profession may be nearer than many of us have supposed; there are, indeed, many who believe that the time is already ripe for action.—*Brit. Med. Jour.*

SYPHILIS.

H. G. Irvine, Minneapolis (*Journal A. M. A.*, Dec. 30, 1916), remarks on the importance of the teaching of syphilis in the medical schools. He gives figures of its estimated frequency in the general population, and considers that at least ten million persons are infected in this country. It also causes a vast amount of expense in loss of time, and care of the insane that it produces. Several years ago a committee appointed by the American Medical Association made certain recommendations regarding the treatment of syphilis, and more recently a committee of the American Hospital Association made recommendations regarding this treatment in dispensaries. In ten Class A. medical school, which the writer recently visited, only two have special departments for teaching and treating this disease, though in three others it is practically controlled in the department of dermatology and syphilis. At the other five syphilis is taught and treated in all departments, according to the lesions or organs affected. This, Irvine thinks, can result only in improper and conflicting teaching and poor treatment. In five colleges the syphilis, or skin and syphilis department, has its special laboratories where Wassermann tests and spirochete examinations may be made. At the other five these examinations are made in the general laboratory. Seven colleges furnish the room to adequately and decently handle patients, but not all of these have enough assistants and equipment for a thoroughly well-kept record. At only four colleges are beds available for these cases, although in three others patients can be put into municipal hospitals and kept under control. In six of the clinics some one of the arsenical preparations is given as a routine, provided the patient is willing and able to pay for it. At three it is given only in selected cases as a routine and in one only to clear up symptoms. In only one clinic can a patient receive immediate alvarsan treatment, whether he can pay the cost of it or not. At five schools a social service department is maintained and an attempt made to follow up and control patients. It is hard to estimate the amount of time given, from the fact that in most schools teaching of syphilis is given only as it happens to turn up. In Johns Hopkins, Harvard and Ann Arbor only is a systematic course given. Statistics are given to show the difference in the results in these schools, and more particularly in the University of Minnesota. Irvine's conclusions are: Syphilis, from a sociologic, economic and mortality standpoint, is one of the greatest problems before our profession. Physicians have the opportunity to take the initiative in stamping out this disease and should not wait for outside organization to force it on them. Medical schools have a double opportunity to do their share, first, by adequately treating the patients coming to their

dispensaries; second, by furnishing such instruction to students that they also may be depended on to treat syphilis correctly. The majority of schools have competent men in charge of the work, but results in many cases are not obtained on account of lack of assistants and adequate equipment. The prevalence of the late manifestations of the disease is obvious proof that the profession has not treated it adequately. There is no excuse for a continuance of thsee methods.

THE SPHENOID SINUS.

After pointing out that the knowledge of the sphenoid sinus has been mainly gained in the last thirty-five years, and that of its surgery in even less time, H. W. Loeb, St. Louis (*Journal A. M. A.*, Dec. 30, 1916), enumerates some of the problems yet unsolved in regard to it substantially as follows: The cause of the excavation of the sphenoid body resulting in the formation of these sinuses with their variations in size and shape. The pressure of the air in the nose in breathing might suggest an explanation, but experiments have not confirmed it. Associated with this question is that of the relation of the posterior ethmoid cells to the sphenoid. Why does the last posterior ethmoid cell sometimes project itself into the sphenoid and replace the corresponding sphenoid sinus? This occurred twice in the thirty sphenoid sinuses studied by Loeb. What bearing has the sphenoid sinus on the cranial nerves in this neighborhood, and are they affected by purulent infections of the sinus? The physiology of the sinus is almost unknown. Beyond its value in decreasing the weight of the head without reducing bone surface area, we have little to say. But this idea was held nearly 3,000 years ago. The development of the sphenoid sinus from the nasal cavity greatly extends the respiratory mucous membrane, but we may ask why it should. As to the etiology of sphenoid sinus disease, we are much in the dark. We know about the pathogenic bacteria, but we do not know why the sinus should often escape infection when the opportunity is abundant. The symptomatology of sphenoid sinus suppuration presents a wide range. Sometimes it is almost symptomless, at other times most acute. We hear of blindness ascribed to it and relieved by appropriate treatment of the sinus, and also of acute mania from this cause. What we need is to have some one determine the symptom basis so that we can decide between the sphenoid symptoms and those of other origin. Our best agents for diagnosis are cocain, the Killian speculum and the Holmes nasopharyngoscope. Roentgenography offers but little help; on

account of its distance from the plate we cannot determine the presence of pus. We have not achieved the highest success in the surgery of the sphenoid, notwithstanding the case with which we resect the anterior wall. Sometimes we have marvelous results, at others failures. Will not some earnest investigator find some basis independent of the mere judgment of the operator for surgical interference, and so classify the nervous symptoms that sphenoid operations for their relief may be rational and not experimental? There is a large field for study. We cannot always account for postoperative accidents and results by what we know, nor are they always due to operative inefficiency. We need a great deal more light in this regard.

LATE SYPHILIS.

A critical study of 120 cases of late syphilis with particular reference to early treatment is published by U. J. Wile and J. A. Elliott, Ann Arbor, Mich. (*Journal A. M. A.*, Dec. 23, 1916). During four years past they have seen in the neighborhood of 200 cases of gummatous or nodular ulcerated syphilis. In 120 of these cases they have definite criteria as to the amount and type of treatment which was given, the facts in regard to previous history as to the type of lesion; its situation; the incidence of trauma as a possible factor; knowledge of an infection; presence of syphilis in the consort; the length of time elapsing from the beginning of the infection, and the type and amount of treatment that had been given. Fifty-four were gummas or nodular ulcerated lesions. In twenty-nine cases the mucous membranes were involved. The bones and joints were involved in twenty-five and the viscera in twenty-two cases. History of trauma was given in thirteen cases, ten of them in or near the bony prominences and in one case smoking was the alleged cause. Trauma was a factor in only 10 per cent. of the cases and only a partial one then. It would seem that it is important as a factor only when the later manifestations concern the skeletal structures. In sixty-three cases there was a definite history of infection. The length of time before the late manifestations showed some interesting figures, ranging from four months to forty-four years; the average length of time elapsing for the whole group was ten years after infection, but over 33 per cent. of the patients developed the late sequels in the fourth year, which may be considered the year during which tertiary accidents are liable to occur. A definite history of treatment with particular time of inception and its character was attainable in all the cases studied. Fifty-five had had absolutely no treatment whatever and efficient treatment had been given in

only one case out of the whole, counting as efficient, prolonged mercurial medication in any form. Comparing these data with a number of other cases observed during the same time and in which treatment had been instituted at the outset and carried through intensively, they found that 90 per cent. had had no signs of recurrence and most of them are serologically cured. The conclusions reached are given as follows: "1. By far overshadowing all other causes of the appearance of late syphilitic sequelae, the lack of, or inefficiency of, treatment during the early period stands out the most important factor. 2. The inefficiency of treatment by the ingestion of pills is suggested by the fact that in those cases in which treatment was given the largest number had been treated in this fashion. 3. The tendency for late sequelae increases up to the fourth year, which represents a fastigium, after which there is a decrease in the probability. 4. That no latent untreated cases are immune is suggested by the lapse of forty-four years after infection in one of our cases. 5. Trauma probably plays a smaller role in the production of active syphilis during the period of latency than is generally supposed. Where it occurs it is likely to influence the appearance of gummatous lesions in or around the skeletal structures. 6. Intensive treatment is accepted by modern methods (salvarsanization and thorough mercurialization during the early months) is protective in the largest percentage of cases. 7. In treated cases the occurrence of late sequelae, except for isolated and exceptional cases, must be regarded as an indictment against the method of treatment.

ARSENOBENZOL BY MOUTH.

J. H. Schamberg, J. A. Kolmer and G. W. Raiziss, Philadelphia (*Journal A. M. A.*, Dec. 23, 1916), after referring to the article published by the first two named authors in which they demonstrated that salvarsan could be administered orally to the lower animals and in doses up to 0.6 grain to the human subjects without producing toxic symptoms, report further experiments with their preparation corresponding to salvarsan (arsenobenzo). They find that absorption takes place when it is used in experiments on animals which have been infected with trypanosomes (*T. equiperdum*, the organism of dourine) and in a general way they found that about from one ninth to one tenth of the dose was required in solution by mouth to produce an equivalent effect to that when given intravenously. Arsenobenzol by mouth, however, exerts only about 40 or 50 per cent. of the trypanocidal effect produced by neosalvarsan intravenously. Their experiments also demonstrate that arsenobenzol

can be administered in capsule form over long periods of time without harmful results. Clinically they found that the drug may be given in doses of 30 mg. three times a day for many weeks without producing disturbing symptoms except mild digestive distress and this only in a relatively small proportion of cases. Given by mouth it is capable of producing a curative influence on syphilitic lesions, but much less vigorous than when given intravenously. They, therefore, do not recommend it for a routine treatment, as there are much more efficient avenues of administration. It should be used only in cases in which for some reason it cannot be given intravenously.

VENERAL DISEASES.

J. E. R. McDonagh (*Practitioner*, December, 1916) presents views on the causative agent of syphilis, the Wassermann reaction, and salvarsan that are considerably divergent from the German theories which have gained wide acceptance throughout the world. His paper should be read in full, for it is impossible to give the force of the arguments in an abstract. His claims are that the spirochæta pallida is only the male form of the protozoon of syphilis, the function of which is to fertilize the female form, that salvarsan does not cure the disease because its action on the other forms of the protozoon is not as destructive as on the male form, and that while a positive Wassermann reaction allows the presumption to be made that the patient has had syphilis, it does not necessarily signify that the disease is active, or that the patient requires treatment. In place of the Wassermann reaction he proposes what he calls the "Gel" test. From five to twenty c. c. of blood are taken from a vein and allowed to clot in order to separate the serum. It is better not to use a centrifuge, and the serum should not be incubated. An opaque serum or one tinged with hemoglobin may be used, but it should not be more than a few days old. Both a negative and a positive control are necessary, i.e., a known nonsyphilitic and a known syphilitc serum, because the time of year and the temperature of the room have an influence on the results. Four c.c. of glacial acetic acid are placed in a clean dry test tube, one c. c. of the serum to be tested is added, and the tube is shaken. Four test tubes are thus prepared for each serum to be tested. One c. c. of glacial acetic acid is placed in each tube; then two drops of the acid serum are added to the A tube, four drops to the B, six drops to the C, and eight drops to the D. The tubes are then shaken, 0.2 c.c. of a saturated solution of lanthanum sulphate in glacial acetic acid is added to each, the tubes are shaken again, and then left to stand. In

the positive control a precipitate soon forms in D, then in C, A, and B, or C, B, and A. Half an hour or so later the precipitate has fallen in all four tubes, leaving a clear solution above. In the negative control the precipitate forms slowly, and the supernatant liquid does not become absolutely clear, even if left over till the next day. Hence it is easp to differentiate a syphilitic from a nonspyhiltic serum, and also to tell the grades of positively, so that the ffect of treatment can be accurately gauged. The results obtained by this test, under control of the Wassermann reaction, he avers to be more than satisfactory. McDonagh maintains that arsenic is not the most important part in the salvarsan molecule, but that its therapeutic action is mainly due to its orthoaminophenyl groups. He gives a list of bad results, including six of sudden death, from treatment with arsenic substitution products since the war began. He finds sulphur and iron better fitted for the purpose of the treatment in syphilis when in forms that furnish these orthoaminophenyl groups. The most suitable sulphur compound so far prepared is diorthoaminothiobenzene, or intramine, as it is called for short. Over five hundred injections of this substance have convinced him of its efficiency. He believes it to be not only one of the most active drugs we have, but one of the least toxic, and one that has a much wider sphere than salvarsan. He says that it should succeed in early syphilis, but that in recurrent and late syphilis it should precede a metallic compound. Its therapeutic effect is enhanced by the previous use of iodine. The best organic compound of iron prepared was the ferric triparaamino sulphonate, which he calls ferrivine. This has not yet proved as satisfactory as intramine, though its therapeutic action was in many cases superior to that of salvarsan. Collosal iodine, a colloidal iodine, he prefers for the administration of this drug. An outline of the way in which he uses all of these substances in the treatment of syphilis is given.—*N. Y. Med. Jour.*

RESULTS FROM PITUITARY EXTRACT IN OBSTETRICS.

Lyle G. McNeile (*American Journal of Obstetrics,* September, 1916) points out that many cases are being recorded in which the following complications have followed the use of this dfug: Post partum uterine atony, fetal asphyxia, maternal collapse, eclamptic convulsions, tetanus of the uterus, premature placental separation, and rupture of the uterus. In his own experience uterine tetanus has followed as little as five minims of the extract in two instances. A greater tendency to such tetanus in primiparæ than in multiparæ was noticed, and in many

instances restoration of normal contractions did not follow, a low forceps operation becoming necessary. Fetal asphyxia was likewise noted in many primiparæ, though it was never fatal. Post partum atony, with alarming hemorrhage in several cases, was noted particularly in instances of prolonged labor, and of multiparæ in which several pregnancies had occurred in rapid succession. Such considerations led McNeile to the assertion that this drug has absolutely no place in normal obstetrics. He formulates, moreover, the following conditions that should govern its use: 1. Complete dilatation and effacement; 2, ruptured membranes; 3, longitudinal presentation; 4, in cephalic presentations there should be no deflection of the head, and the drug should be used only in vertex and breech presentations; 5, there should be no disproportion between presenting part and pelvis, previous accurate knowledge of the internal pelvic measurements, pelvic contour, and outlet measurements being essential; and, 6, the presenting part should be completely engaged, i.e., the greatest diameters of the pressenting part must have passed below the pelvic inlet. In a case of rupture of the uterus following pituitary extract, which the writer reports, the head was well engaged, dilitation complete, the membranes ruptured, and the uterine contractile strength decreased, but the existence of an obliquely contracted pelvis had not been recognized.—*New York Med. Jour.*

TREATMENT OF OBESITY BY A RATIONAL DIET.

Edward E. Cornwall (*Boston Medical and Surgical Journal*, October 26) gives practical suggestions for regulating the diet in obesity. Regulations of the diet should be qualitative as well as quantitative. Insist on scales and measures being used to secure accuracy in carrying out dietetic prescriptions. Do not rely for protein chiefly on animal tissues and eggs, but secure it from milk and its products. If no other morbid condition is present a small amount of animal tissue and eggs may be included in the diet, but this should be excluded when there is obvious insufficiency of nitrogenous metabolism, or ther is diesease of the alimentary canal. Include plenty of fresh fruits and vegetables, but select carefully so as to include only those which are comparatively free from objectionable qualities, such as indigestibility, possession of purin or oxalic acid content, and offensiveness to the patient's idiosyncrasies. Allow water in ordinary quantities. Begin the treatment by restricting the fuel ration so as to supply about 1,000 calories less than the minimum health ration for the particular patient. Do not reduce the quantity of protein much below the minimum health ration; let the loss

fall chiefly on the fat and carbohydrate. Do not, as a rule, try to reduce the weight by more than two pounds a week; such a moderate reduction is not often attended by unpleasant consequences. Bear in mind the exceptions which exist in regard to reducing weight; be cautious in reducing the weight of those afflicted with serious disease; relax the rigidity of the diet, or discontinue all attempts at reduction, if in the course of treatment symptoms of distress or weakness appear; do not, as a rule, attempt to reduce the weight of those entering on old age who have been obese for a considerable time. In most cases allow occasional periods of rest from the rigid diet, and, while giving the minimum health rations, take note if the weight increases in consequence.—*N. Y. Med. Jour.*

CEREBELLAR LOCALIZATION.

I. L. Meyers, Chicago (*Journal A. M. A.*, Dec. 9, 1916), discussed the subject of cerebellar localization which, he says, unlike the doctrine of cerebral localization, is not developed by direct experimental evidence, but has been evolved through studies in embryology and comparative anatomy. He notices the work of Bolk, who in 1903 deduced the theory that the development variations of the cerebellum bear a relationship to the various muscle complexes, and he points out how the direct stimulation methods of Ferrier, and others, and extirpation methods of still others, have not furnished the undoubted proof of functional differentiation that they afforded in the case of the cerebrum. In a recently published communication, Meyers has advanced the view, obtained by galvanometrically determining the electric potential on the two sides of the body after unilateral ablation of the cerebellum, that it does not, as generally assumed, act motorially on the periphery but that it acts primarily on the motor and tonus centers of the encephalon, its function being to inhabit or control and regulate the activity of these nuclei and that the phenomena of cerebellar deficiency are therefore to be interpreted as phenomena of hyperactivity of the latter structures. The cerebellum, according to this, is a purely afferent mechanism similar to the posterior root ganglia of the cord. Meyers goes at length into the description of his method of experimenting with the centers of the cerebellum by excitation with oil of absinthe, which has a peculiar influence on these centers, and he describes the myograms of the absinthe convulsions at length, and with myograms. His conclusions from these are given as follows: "1. The function of the cerebellum is to inhibit, control and regulate the activity of the motor cortex of the cerebrum and the paracerebellar nuclei in the medulla. 2. The phenomena of cerebellar de-

ficiency are, accordingly, to be interpreted as phenomena of hyperfunctional and not hypofunctional activity. 3. The cerebellum is functionally differentiated for the various muscle groups of the body, indirectly, by being primarily related through its various lobules to the various motor centers in the cerebrum and the tonus centers in the medulla, just as a posterior root ganglion is, in a motor sense, related to a certain muscle complex through its corresponding group of motor cells in the anterior horn of the cord. 4. The paramedian lobule is, in this manner, related to its homolateral hindlimb, and probably also to the contralateral hindlimb; the crus secundum to the homolateral hindlimb, very likely, exclusively, and the crus primum to the homolateral forelimb. 5. These results are in general in conformity with the theory of cerebellar localization as postulated by Bolk. They differ from it only as regards the paramedian lobule, which Bolk assumed was the center for unilateral movements of the muscles of the trunk." Meyers makes the suggestion that these experiments may possibly have a diagnostic significance in suspected cases of cerebellar diseases and the administration within physiologiv limits, as was done, might make certain evidences of cerebellar deficiency more obvious in suspected cases, and also aid in the location of the lesion.

TREATMENT OF GAS GANGRENE.

Kenneth Taylor, pathologist to the American Ambulance Hospital, Paris, gives an account of work on gas gangrene done in the laboratories of the Robert Walton Goelet Research Fund (*Johns Hopkins Hosp. Bull.*, October, 1916). The condition usually connoted by the term "gaseous gangrene" is defined as the death of an extensive mass of muscle due to the mechanical action of gas produced from a local focus by saprophytic bacteria. The substances from which the gas is formed are chiefly the carbohydrate-containing tissues; hence muscle is the tissue primarily involved. The organism is, with rare exceptions, *B. perfringens*. The stages through which a gaseaus infection may pass are a dormant stage, which represents the condition present in the majority of fresh wounds. The bacillus was found in 70 per cent. of all wounds examined bacteriologically and with greater frequency in wounds examined within the first few days after injury. In this stge the bacteria are present in the remnants of dead muscle tissue; gas may be apparent in the depths of the wound. Then comes the stage of gaseaus distension, marked by gaseous infiltration of the healthy tissue, with retention of gas and consequent sustained pressure. A rapid increase in intramuscular pressure

may quickly deprive the tissues of blood until the muscle appears as if it had been wrung dry of fluids and the condition of gangrene supervened. The pricess may next pass into the explosive stge and progress rapidly, owing to the invasion of the gangrenous muscles by the bacilli. This in turn is accompanied, or soon followed, by the stge of systemic toxæmia, collapse, and death. In rare instances a stage of terminal bacteriæmia is reached. From the standpoint of treatment a study of the conditions which determine an extension of the process from the first to the second stage is most important. Two conditions seem to be necessary—a continuous production of gas in the wound and sustained pressure within a muscle mass following its infiltration and distension by the gas formed. 1. The continuous gas production depends on an adequate supply of dead muscle. The wound must provide this for the establishment of the saprojhyte in an anaërobic medium favorable for its initial multiplication and the production of gas and toxin. Wounds made by fragments of shell and shrapnel with high velocity are particularly liable to produce this condition by reason of their explosive effect on the semi-fluid mass, in addition to the tearing action and consequent separation of fragments of muscle from their blood supply. When bones are struck, the ragged splinters bring about the result even more effectively. The activity of the bacteria is almost invariably limited to muscle; invasion of the subcutaneous crepitus is not, however, an indication of the extent of the infection, but usually only of the escape of gas from the affected muscles. 2. Sustained pressure within a muscle mass depends on retention by intact muscle sheaths of the gas produced, and by occlusion of the avenues of escape due ti the local swelling of the muscle fibres in response to inflammatory reaction. The structure of muscle permits an easy infiltration of gas between and parallel to the fibre bundles. The arrangement of fibres makes its escape correspondingly difficult except in a longitudinal direction, and this outlet is frequently blocked by the bulging of fibres into the wound. Such blocking is especially apt to occur when there is fracture of a long bone. This deprives the muscles of their splint, which would otherwise allow the longitudinal contraction of the cut fibres to keep the wound open. When a fracture occurs the contraction of the muscles closes the wound more firmly by allowing lateral bulging. It follows that an infected fracture is more easily drained of gas and pus when held in extension than before traction is applied. From his investigations Taylor concludes that the treatment of gaseous infection consists in (1) prophylactic treatment during the dormant stage; (2) treatment during the stage of gaseous distension; (3) treatment of established gangrene. The prophylactic treatment must include, first, an endeavor to remove or destroy

the bacteria present in the wound and to deprive them of their necessary soil, the dead muscle; and secondly, precautionary measures against the occurrence of gaseous distension. The shorter the interval between injury and treatment the more certain is a successful result. Thorough cleansing, including the removal of all foreign matter, is necessary. After this an antiseptic active against the gas bacillus should be employed; for this purpose Taylor has found a solution of quinine hydrochloride effective clinically. As a prophylactic he suggests the routine use of quinine dressings as perhaps more nearly specific than any ither antiseptic. Quinine hydrochloride has proved experimentally much more active *in vitro* and in animals than any other solution he has tried. Potassium permanganate and hydrogen peroyide show no activity against the organism *in vitro* unless used in very large amounts, and then they only temporarily inhibit the growth of the cultures. It is useless to attempt to produce an aërobic condition in a piece of necrotic tissue. Carbolic acid and hypochlorite solutions in weak concentrations stimulate the growth of the organism *in vitro*. The bacillus grows readily in a medium containing as much as 2 per cent. of carbolic acid or 50 per cent. of Dakin's solution. The use of sugar solutions for dressings is dangerous, as they supply one of the necessary factors—a carbohydrate —for the active production of gas by the bacilli. Oxygen, injected subcutaneously, cannot reach the focus of infection which is in the muscle, and probably serves only to increase the tension of the muscles and to interfere with the circulation in the parts. The use of antiserums and vaccines is of doubtful value if the organism is considered as a saprophyte which has not invaded living tissues and the damage done to the tissues is of a mechanical nature. It is also very uncertain whether the muscle-toxic hæmolptic principle formed by the bacteria is a true soluble exotoxin for which an antitoxic serum can be produced. The use of the cautery appears to have no logical basis, and late results of this method of treatment seem to indicate that it furnishes foci for certain pyogenic infections of the tissue damaged by heat. To avid gaseous distension the wound should be kept as widely open as possible by means of a loose pack of gauze soaked in some wet dressing, preferably the quinine solution already mentioned. Any form of bandage or splint which increases pressure in the neighborhood of the wound or blocks the escape of gas, such as tight circular bandages, circular plaster casts, and so forth, must be avoided. The circular bandage bound tightly about a limb is undoubtedly often responsible for the development of gas gangrene. Whenever possible a gauze pad should be substituted and fixed in position with adhesive tape. Where there are fractures of a long bane, the limb should be put in extension as soon as possible in order to keep the wound

wide open. During the stage of gaseous distension there is often rapidly increasing intramuscular pressure; this may speedily result in the death of the muscle. Every effort should therefore be made to recognize the first signs of distension and to relieve the pressure at the earliest possible moment. The longitudinal arrangement of the fibres composing the muscle makes it difficult to relieve the gaseous pressure by longitudinal incisions, and it is necessary to make a larger number of such incisions than for the release of fluid. An attempt should be made to discover the focus of necrotic tissue where the active gas production is going on, and to remove the necrotic portions. The incisions should be dressed in a manner similar to that described for the wound during the dormant stage. Irrigation with one-tenth of 1 per cent. quinine hydrochloride solution in physiological saline may also be practised. If incisions into the muscle show a pale, dry, dull pink surface, and a consistency as if drung dry of blood and lymph, the condition of gangrene is probably established. The dead muscle is then a great menace to the patient, first, because it will speedily become an active source of gas production by the rapid invasion of the bacilli, and secondly, because the products of autolysis of a large mass of tissue may be themselves produce a profound toxæmia. Muscle in this condition will never regain its vitality; if the patient lives, it will be found to slough out in large fragments, sometimes as an entire muscle. Hence the treatment indicated is to remove the gangrenous tissue as quickly and as thoroughly as possible. This can usually be done only by amputation, if the process is in an extremity. No attempt should be made to cover the stump with skin flaps. The transverse section of the muscle fibres allows of free drainage of gas, and, unless extensive necrosis has occurred in the muscle tissues remaining, the process is frequently checked. The presence of subcutaneous crepitua above the possible limit of amputation, or even evidence of muscle involvement above that line, does not mean that the process will continue after the operation.—*British Med. Jour.*

MILK-BORNE INFECTION.

E. R. Kelley, Boston (*Journal A. M. A.*, Dec. 30, 1916), says that when the subject is approached in an impartial manner, it is astonishing to see how little real basis there is on which to form any definite estimates as to the quantitative importance of milk infection as compared with other modes of infection. Milk-borne infection is of importance in the United States in five diseases: diphtheria, scarlet fever, septic sore throat, tuberculosis and typhoid fever. Tuberculosis pre-

sents a separate problem, from the rest. The evidence that incriminates cow's milk as a factor in the transmission tuberculosis to human beings is now quite conclusive. Nevertheless, the data as to its quantitative importance are comparatively scanty on account of the difficulty of determining whether it is the human or the bovine type that is the active factor. The researches of the British Royal Commission and the New York health department prove that the bovine bacillus is of frequent occurrence under conditions which render it practically certain that the bovine tubercle bacillus is the cause of the disease in a variety of human tuberculous lesions, especially in children. The methods, however, of determining this in a particular case are so intricate and involved that it is not likely at present that we will soon have any general practical method of demonstrating the true frequency of bovine tuberculous infection. Leaving tuberculosis aside, it ought to be much easier in the case of the four other diseases. Careful and thorough adherence to the laws of epidemiology, supplemented by equally careful and thorough laboratory investigations, will in the majority of cases in epidemics prove conclusively whether or not they can be attributed to milk infection, but there are apparently few health departments in the United States that do determine this even in a roughly accurate way. The usual investigation is carried out only so far as to establish a suspicious frequency of infection in persons having a common milk supply, and the epidemic is promptly labeled as due to milk on insufficient evidence. In order to definitely declare any disease milk-borne, however, it is necessary to carry out by epidemiologic and laboratory means a careful search for and detection of the disease or a past history of the disease in a person or persons handling the milk at any point, and a thoroughgoing exclusion of all other probable channels of infection. He supports these views by figures, and especially by Massachusetts statistics. Analysis of these demonstrates that in only 0.03 per cent. of cases was the transmission of diphtheria definitely assigned to infected milk, and in only 0.19 per cent. was milk either proved or suspected; 1.6 per cent. of the cases of scarlet fever were definitely attributed to milk infection, and 1.8 per cent. proved or suspected; in 79 per cent. of the cases of septic sore throat (not reportable in Massachusetts until 1914) milk was assigned as the case, and in 6 per cent. of the cases of typhoid milk was either proved or suspected to be the agent of infection in this disease. Taking all of these diseases in a group, 3.9 per cent. were definitely attributed to milk, and in 4 per cent. of all the cases milk was proved or suspected. Considering mortality, 3 per cent. of typhoid deaths, 0.8 per cent. of scarlet fever deaths, and 98 per cent. of septic sore throat deaths. Massachusetts' experience, he says, would seem to indicate that even in raw

milk supplies under widely differing conditions of supervision, diphtheria transmission through milk is so rare as to be negligible, and the transmission of scarlet fever, while much more common than diphtheria, is of very small percentage significance. Typhoid fever has been reasonably attributed to milk in a much larger number of cases, but these all amounted to only 5 per cent. of the total cases reported. Septic sore throat is par excellence the milk-borne disease, but its occurrence is fortunately relatively rare. When it does occur it is usually in epidemics, and is of more serious consequence. In all probability, the menace of tuberculosis is the best excuse we have as practical sanitarians for the amount of propaganda that has been carried on and the money that has been expended by health authorities for the control of milk supplies, so far as such supervision aids the suppression of communicable disease.

TRAUMATIC PNEUMONIA AND TRAUMATIC TUBERCULOSIS.

Both law and life assurance are interested in the question how far pneumonia and various forms of tuberculous infection may properly be described as due to trauma. The question has recently been discussed, with a wealth of illustration from practical experience and the literature of the subject, by Dr. Parkes Weber. He shows that traumatic pneumonia, described by Litten in 1881 as contusional pneumonia, occurs as the more or less direct result of injuries at all ages. We say the more or less direct result because the interval of time between the receipt of the trauma and the onset of the pneumonia may vary widely. In some cases only a few hours intervene between the two; in most the interval extends to days, from two to four, or even six. In exceptional instances, as in one recorded by von Leyden, the pneumonia may be delayed for as long as a fortnight, and here naturally opinions will differ on the point whether the injury was really the cause of the subsequent pneumonia or not. It may be added that the experimental production of pneumonia in animals with tough ribs, like dogs, or fragile ribs, like rabbits, has not proved successful, though hæmorrhagic infiltration of the contused lung may be produced. It would be interesting to know how far contusional fat embolism of the lungs may have been confused with pneumonia in some of the recorded traumatic cases of that disease. Dr. Parkes Weber notes that traumatic pneumonia was recognized in English courts of law as long ago as about the year 1870, when Sir Clifford Allbutt encountered an instance of it. With regard to traumatic tuberculosis, Dr. Parkes Weber has collected a great deal of interesting information from the extensive literature of the subject. Dismissing from

his review cases of traumatic tuberculosis from direct inoculation of the bacilli, he arranges the remaining instances in which the bacilli could not have been introduced from without into three clinical groups, each illustrated by the reports of cases. The first group contains examples in which decided traumatism of some kind is followed either by acute generalized miliary tuberculosis with death in a month or two, or by metastatic localized tuberculosis in parts of the body remote from the site of the injury. Bloodless operations, the manipulations of bone-setters, or even massage, directed to the cure or tuberculous disease of joints, may have these untoward results. The second group consists of cases in which signs of pulmonary tuberculosis follow, or are first noticed, after a supposed injury to the lungs. On the whole such instances, the author thinks, must be very rare. The third group comprises instances in which an injury to bones, or joints, or parts of the body other than the lungs, is followed by signs of tuberculosis more or less localized to the region of the trauma. Dr. Parkes Weber concludes, after discussing the results of experimental investigations made upon animals, that the so-called traumatic cases in man must be explained as the rendering manifest and active of a pre-existing quiescent or latent tuberculous infection at the injured spot. The general conclusion to which he comes is this: that it must always be difficult and doubtful to decide what part has been played by the trauma in any particular case of alleged traumatic tuberculosis. Searching questions must first be answered: Did the trauma merely accelerate the progress of an existing tuberculosis? What were the probable extent, distribution, and activity of the original tuberculous lesion at the time of the injury? Was there any clinical evidence that the patient was already tuberculous at that time?—*Brit. Med. Jour.*

THE CARREL METHOD OF WOUND TREATMENT.

The disinfection of war wounds by the Carrel method as carried out in an ambulance at the front in the present war is described by H. H. M. Lyle, New York (*Journal A. M. A.*, Jan. 13, 1917). The basis of the treatment is the sterilization of the wound by a suitable antiseptic reaching every portion in a sufficient concentration for a period long enough to destroy the infecting micro-organisms. The chemical destruction of the micro-organisms depends on the difference of the resistance existing between the tissues involved and the bacteria. The Carrel method enables us to secure this. The antiseptic employed is Dakin's sodium hypochlorite, 0.5 per cent. It is an ideal isotonic wound anti-

septic of high bactericidal activity and low toxic or irritating quality. The latter feature distinguishes it from Javelle water, Laborraque's solution, etc. The commercial hypochlorites are of inconstant composition, and generally contain free alkali or free chlorin. They are therefore irritating and not to be used. Dakin's solution properly made has the great advantage of being able to dissolve pus, old tissue debris and blood clots, while the living tissues resist. The thoroughness of the first surgical aid is most important, and it should consist in a thorough, mechanical disinfection and cleansing from all dirt and foreign substances. The operative field is painted with tincture of iodin, and bruised and necrotic skin edges trimmed away with a sharp knife, which is then laid aside. Fresh instruments are then used to lay the wound open like a book, and it is gently explored for shell fragments and clothing shreds, etc. Gentleness of manipulation is the keystone of the technic, and any rough handling or bruising is a crime. To avoid overlooking blood stained and encrusted debris, fragments of bone, etc., the same minute and careful technic is used in bone wounds as in the soft parts. A careful revision of the wound is made and particular attention given to perfect hemostasis, which is necessary with Dakin's solution, which has the power of dissolving blood clots. Next the installation tubes are placed in the wound so that the liquid will come in contact with every portion. A thin layer of gauze is placed over the wound and around this the required number of tubes, secured to the wound edges by a rubber cuff and suture, or a two-way tube is used. Details are given by Lyle as to the necessary placing of the tubes. In the simple type of penetrating wounds a tube without lateral perforations is introduced to the depth of the cavity and the solution allowed to well up from the bottom. In a large tract terminating in a cavity with irregular collapsible walls, a little gauze is introduced to support the walls of the cavity and allow a more thorough penetration of the fluid. Penetrating wounds with the point of entrance in a dependent position (as the buttock, posterior surface of the extremities, and the back) are treated with perforated tubes dressed with toweling. These dressed tubes keep the antiseptic in contact with the wound. A suitable nonperforated tube can be used. In through and through wounds, a perforated tube with the tied extremity uppermost is passed from the lower to the upper wound. The liquid, escaping through the small lateral holes, flows back along the tract to the inferior orifice, moistening the entire wound. Wounds of the hand or foot, open amputation stumps, etc., are immersed in Dakin's solution for from ten to fifteen minutes every two hours until the wound is sterilized. The skin is protected by smearing it with sterile yellow petrolatum. The gloved hands are never

allowed to come in contact with the wound in dressing. The instillations of the fluid are made every two hours by releasing the adjustable clamp controliing the flow, the amount being governed by the needs of the case. When the wound has become sterile the tubes are removed and the compress, moistened and Dakin's solution, applied. Formerly a continuous instillation was used. Once a day or oftener careful inspection of the wound and dressings and flow is made. Flushing the wound shows if the solution is being delivered as planned, but there is not a continuous irrigation, only a mechanical attempt to deliver a definite chemical antiseptic to every portion and to insure its contact for a prolonged period. To protect the skin from the liquid, gauze impregnated with yellow petrolatum is applied to the skin surfaces below the wound. Regular determination of the number of microbes on the wound surfaces is made by transferring on a standard loop a portion of the secretion to a slide and a count of the number of microbes in the field every second day, record being made. Absence of microbes from the wound for three successive days is considered to indicate sterilization of the wound. It is best to begin the bacterial chart one or two days after reception of the patient. Wounds of the soft parts are sterilized in from five to eight days, while greatly traumatized wounds and fractures require a considerably longer period. All bone sequestrums must be, of course, removed. When the wound has been shown sterile for three days it is closed by careful layer sutures, and for extensive traction strips are used. Details of the routine method at Hospital B, American Ambulance, are given, and the results of the Carrel method were most favourable. The immediate complications became rarer and supuration almost entirely disappeared. Lyle's summary is given as follows: "The Carrel method is not a continuous irrigation. It is not dependent on the miraculous power of an antiseptic, or on any one feature of the method, but on the combination of the whole. It is a method of sterilizing wounds by mechanically delivering an antiseptic of definite chemical concentration to every portion of a surgically prepared wound and insuring its constant contact for a prolonged period. The progress of the sterilization is rigorously controlled by the microscope. Gentleness, thoroughness, and attention to detail are essential for success. I firmly believe that the adoption of this method is destined to save many lives, to reduce the gravity of the mutilations, and allow the rapid return to the front of many men who would otherwise be lost to the service of their country." The article is illustrated.

PERSONAL AND NEWS ITEMS

PERSONAL AND NEWS ITEMS.

The estate of the late Miss Marjory Shaw, of Glasgow, yielded £311,500 to charities. The Royal Infirmary of Glasgow will receive £100,000.

In California there is now a law that divides all practitioners into two classes—those who may use drugs along with others means in the treatment of all conditions of disease or injury, of both body or mind; and those who cannot use any drug, or sever any tissue, except the umbilical cord, in their practice. This draws a well defined line between the two classes.

The ninth annual meeting of this committee was held in New York on Wednesday, February 7th. Mr. Otto T. Bannard, treasurer, announced that gifts amounting to more than $30,000 for general expenses had been contributed during the past year by four donors, one of whom had pledged $100,000 toward an endowment fund that is being raised. The Rockefeller Foundation has contributed $34,000 for special purposes, such as surveys of conditions among the insane and feeble-minded.

Announcement is made that Dr. Joseph A. Blake, formerly professor of surgery at Columbia University, has accepted an invitation of the French Government to become head of the hospital built and conducted by Dr. Eugene Doyen, the famous French surgeon, who died two months ago. This institution will reopen, with Doctor Blake in charge, in another month, and will be conducted as a war hospital, under the American Red Cross.

Eli Lilly & Co., of Indianapolis, has offered the local chapter of the American Red Cross the sum of $25,000, in the event of this country being drawn into war, to establish a base hospital of 500 beds, with surgical and medical equipment, and tentage. The offer was made to commemorate the services of Colonel Eli Lilly as a soldier and a citizen.

Dr. B. C. Crowell, Professor of Pathology and Bacteriology, University of the Philippines, has been appointed director of the Graduate School of Tropical Medicine and Public Health of that University. This school gives courses which in one year lead to the Degree of Doctor of Tropical Medicine and in two years to Doctor of Public Health.

Dr. Richard Liebreich, distinguished as an ophthalmologist, a painter, and a sculptor, died in Paris on January 29th. He had been a naturalized Frenchman for more than fifty years. He was born at

Koenigsberg on June 30th, 1830, and was therefore in his eighty-seventh year. He studied medicine at the university in his native city, at Berlin, and at Halle, where he took his doctor's degree in 1853. He afterwords worked under Donders at Utrecht and Bruecke at Berlin, and was assistant in von Graefe's clinic from 1854 to 1862. He gave special attention to ophthalmoscopy, and in 1863 published the first atlas of the subject, a third edition of which appeared in Berlin in 1885. He settled in Paris as an ophthalmologist in 1862.

At a stated meeting of the New York Academy of Medicine, held Thursday evening, February 1st, a three-quarter length portrait of Dr. William M. Polk was presented to the academy, thus completing, as Dr. Walter B. James, the present president of the academy said, a full line of portraits of the distinguished men who have been presidents of the New York Academy of Medicine. Dr. George D. Stewart accepted the portrait for the academy with a few well chosen words of appreciation.

It is announced that the bequest of the late T. Morris Knight to the Philadelphia Home for Incurables will be fully $300,000. Sums amounting to $55,000 go to other charities. By the will of the late Jane L. McConnell, of Philadelphia, the Presbyterian Hospital of Philadelphia will receive $10,000.

Russell Elliot Wood was the representative in the fifty generation of a family of doctors who had successively practised medicine in Edinburgh, and all of whom attained high eminence in that city, alike professionally and socially. He was a son of the late Dr. Andrew Wood, and was born in Edinburgh in 1856. In his native town he passed his school and college days, the former in the Edinburgh Academy, the latter in the University and Extra-Academical School. He graduated M.B., C.M. in 1877, and for the prescribed times acted as house-surgeon in the Royal Infirmary and resident medical officer in the Sick Children's and Maternity Hospitals. Shortly after his period of work in those institutions the Zulu war broke out; he volunteered for medical work, and was sent out to South Africa, where he saw much of the fighting, and was present at the decisive battle of Ulundi, receiving for his services the Zulu medal and clasp.

The conference promoted by the National Association for the Prevention of Infant Mortalit yand for the Welfare of Infancy was held in Glasgow on March 13th and 14th. It was attended by delegates from twenty-six burghs and six county authorities in Scotland; from seven boroughs and two county authorities in England; from one borough in Ireland; and from twenty-four associations otherwise interested in the welfare of infancy and early childhood.

Professor J. Dejerine, of Paris, died February 27, 1917, at the age

of sixty-nine years. Professor Dejerine held the Charcot Clinic chair in neurology, having succeeded Raymond. Professer Dejerine was widely known as a leading authority on cerebral anatomy, having with the collaboration of his giften wife published two standard volumes on the anatomy of the nervous system. His recent work on the Psychoneuroses wast translated by Jelliffe in this country and the second edition of his Semeiology has marked him as one of the leading neurologists of his times.

A bill has been introduced into the Legislature of the State of New York by Senator Koenig providing that the practice of medicine act shall not apply to the practices of any religious principles, provided that no fee is charged for religious treatment. The bill also provides that all practitioners of osteopathy must have been graduated from some incorporated school or college of osteopathy.

In speaking at the annual meeting of the Edinburgh Infants' Home last week Dr. Maxwell Williamson, M.O.H., said that the birth rate of Edinburgh was decreasing to an alarming degree; there were 5,700 births in Edinburgh in 1913, and only 5,300 in 1915. The death-rate was 16.1 per 1,000, and the general uncorrected birth-rate 16.3, so that the population was stationary.

A bill appropriating $250,000 for the purpose of establishing a national home for lepers passed the House of Representatives on May 4, 1916, and was passed by the Senate on January 25, 1917. This provides a national institution for the care and treatment of lepers, and solves the problem of preventing the spread of leprosy in the United States.

The trustees of Beth Israel Hospital, New York, have announced that they will soon erect on Livingston Place a new hospital to cost $1,000,000.

The Chicago Medical Society has issued a pamphlet condemning in no uncertain terms compulsory health insurance, and urges the Illinois Legislature to kill the bills now before it which have been drafted by the American Association for Labor Legislation.

Mr. Neville Chamberlain has announced his intention of mobilising the medical profession of Great Britain. The object in view is to so distribute the medical profession as to meet the needs of the people and th army.

Mr. Alfred Keogh, a well-known British surgeon, has had the distinction of Grand Cross of the Order of the Bath conferred upon him for his work in the organization of the Army Medical and Surgical Services. The honor has been well won in this case.

On the severance of diplomatic relationship between the United States and Germany, the American Red Cross workers in Grandenz, Prussia, consisting of three surgeons and three nurses, were ordered by Ambassador Gerard to withdraw.

The New England War Relief Funds up to a recent date were as follows: Belgian Fund, $272,883; French Wounded Fund, $196,509; Armenian Fund, $152,758; French Orphanage Fund, $84,188; British Imperial Fund, $83,693; Surgical Dressings Fund, $70,777; Serbian Hospitals Fund, $70,682; Italian Fund, $33,374; Facial Hospital Fund, $25,525; Russian Refugees' Fund, $16,932.

The National Association for the Prevention of Tuberculosis has decided to publish a journal devoted entirely to this disease. Dr. Allen K. Krause, of Baltimore, is to be the managing editor. It is stated that in 1905 the death rate from tuberculosis in the United States was 200 per 100,000 persons, while in 1916 it had fallen to 146. There is no doubt room for such a publication, and will do much good.

The entire fifth year Medical Class of McGill has volunteered for duty at the front. There are 53 in the year.

Col. Herbert A. Bruce has returned to his duties as Surgeon to the Canadian Hospitals in France. He spent most of February in Toronto, and was banqueted by his friends at the King Edward on the 14th of that month.

Dr. J. B. Brown, of Toronto, is home on furlough. He saw much service in Mesopotamia, where the temperature was sometimes as high as 150 degrees.

Lt.-Col. G. D. Farmer, of Ancaster, who went overseas with the rank of Major in the Field Ambulance, has been given the command of No. 2 Stationary Hospital.

Capt. C. S. Wynne, R.A.M.C., formerly on the interne staff of the Toronto General Hospital, has been home on leave. He saw active service in the Battle of the Somme, and was awarded the Military Cross.

Dr. Fred. Adams, of the Health Department, Toronto, has taken out a commission for service in the C.A.M.C. He had charge of the city's interests in the absence of Col. Nasmith.

Capt. K. E. Millan, of Toronto, was awarded the Military Cross for distinguished services in the R.A.M.C.

Surgeon-General Jones has been appointed Canadian Medical Commission between Canada, France and Britain. Col. Foster, who was Assistant Medical Director, will succeed him as Director of the Canadian Medical Services. He has returned to Canada for some months.

The Ontario Health Officers' Association will meet in one of the University Buildings on May 29th and 30th. An excellent meeting and programme is expected.

Dr. Theodore Janeway will deliver the address in Medicine, and Dr. F. J. Shepherd the address in Surgery, at the meeting of the Canadian Medical Association this year.

Lt.-Col. E. B. Hardie, M.D., D.S.O., is now in charge of the Military Base Hospital in Toronto. He was overseas in charge of the 2nd Field Ambulance. He was nearly 24 months on the firing line.

Dr. J. G. Wright, for some time on the staff of the Rockwood Hospital for the Insane, has been appointed Superintendent of the General Hospital, Kingston.

Dr. John L. Davison, 20 Charles St. E., will confine his work to office and consultation practice.

Dr. G. R. McDonagh, of Toronto, was taken ill in Los Angeles, while there on a visit. Later he was able to go to New York.

Capt. J. C. McCollum, who was overseas and won the Military Cross, is no won duty at the Toronto Base Hospital.

Dr. John R. McCaroll, who graduated in 1880, and afterwards entered the Anglican ministry in Detroit, had a stroke recently.

Colonel Fotheringham, of Toronto, is shortly to return permanently to Canada, where, in his new capacity of Surgeon-General, he will have charge of all sick and wounded soldiers returned to the Dominion. His return has been delayed through illness.

In a letter to The Toronto Telegram, dated February 29, Mr. Robertson states: "Lodged in the cell next to that of Hon. Dr. Beland, late of the Dominion Cabinet, Mr. C. Mellor of London has just arrived at his English home, after thirty months' captivity in Germany. Amazement and indignation at the gentle and considerate manner in which the British are looking after German prisoners in this country brings bitter remarks to the lips of this repatriated man. He only wishes the authorities here could see the way Britishers in Germany are treated.

Dr. Jas. D. Curtis, of St. Thomas, has accepted a position on the surgical staff on the Workmen's Compensation Board, and moved to Toronto to begin his new duties about the end of March. Dr. Curtis has served on the City Council and Board of Health in St. Thomas. He has been Chief Surgeon for the Michigan Central Railway in Canada for ten years. He has recently returned from England, after having served a year with the Royal Army Medical Corps.

Maria S. Ramsay, widow of the late Robert Ramsay, M.D., of Orillia, died in Toronto on 23rd March.

The degree of LL.D. to be conferred by McGill University on Dr. W. H. Elliss, of Toronto University, at the convocation in May was decided by the corporation on the ground of his eminent services in developing scientific and industrial chemistry in Canada, his high literary attainments, his life-long devotion to scientific education in connection with the School of Science, and his valuable services and investigations in medico-legal chemistry, and toxicology, in which field he stands pre-eminent in Canada.

At Elmira, Ontario, Lucy Elwin, wife of Dr. W. W. Giekie, died on 21st March.

An influential deputation waited upon the Ontario Government recently to urge a larger grant towards the maintenance of public ward patients. It was contended that municipalities should at least pay $1.50 per day, and that the Government allowance be 50 cents per day.

A bill has been introduced transferring the medical inspection of school children from the Board of Education to the Medical Health Officer.

Major Sydney Rowland, of Lister Institute, whose two years' work in India helped to establish a knowledge of the transmission of the plague by rats and fleas, died in France on March 6 from cerebro-spinal meningitis. He was engaged in discovering the carriers of that disease, and its is supposed caught the disease in the execution of his duties.

After attending the War Cabinet, Premier Borden, with Sir George Perley, had a conference with Lord Derby, War Secretary, respecting important matters affecting the Canadian force. The rest of the day was occupied with visiting hospitals. The Premier saw a large number of Canadians and addressed gatherings at two hospitals. The men assembled gave a most impressive and inspiring response to Sir Robert's address.

Col. A. T. Shillington, Ottawa, leaves Shorncliffe, becoming commandant at Kitchener War Hospital, Brighton, where there are fifteen hundred beds.

Lieut.-Col. and Honorary Surgeon-General G. S. Ryerson's appointment as honorary colonel of the Army Medical Corps is announced in the Militia Gazette. He succeeds the late Hon. Sir Frederick W. Borden.

At a meeting of the A. Y. P. A. Sewing Society at the Beaches, Toronto, it was decided to send $160 to the Base Hospital for the eye clinic and dressing room and to send a gramophone and records, also subscriptions for four magazines to the Whitby Hospital. The money was made at the recent bazaar held at St. Aiden's.

The new arrangements will create a medical department to cure for the returned soldiers which will take the place of the Hospital Commission. There will be a medical officer in charge, whose duty it will be to secure the requisite number of assistants.

Col. (Dr.) Graham Chambers, who went overseas with the University of Toronto Base Hospital, and afterwards became head of the medical staff of the Ontario Government Hospital at Orpington, had a nervous breakdown recently from the strain of overwork, and was in London for treatment.

Col. (Dr.) H. A. Bruce is now on duty in France as Consulting Surgeon under the War Office. His area will include some of the Canadian Hospitals in France.

OBITUARY

G. A. RICHARDSON, M.D.

Dr. Richardson graduated from the University of Toronto in 1904. For some time he practised at Burk's Falls. He then came to Toronto, where he died last January.

JOHN A. HENDERSON, M.D.

Dr. Henderson was born in Paris, Ontario, forty-nine years ago. He studied in part in Toronto, and in part in McGill, where he graduated in 1893. At the time of his death he was Assistant Professor of Anatomy at McGill. His illness was of very short duration.

L. GARRY LANGSTAFF.

Dr. Langstaff, of Thornhill, was a well-known practitioner throughout the County of York. He had practised for several years in Thornhill and surrounding country. After graduating, he followed his profession for twenty-five years in Brooklyn, N.Y., coming to Thornhill, his native village, some years ago. He is survived by his widow and one child. At the time of his death he was in his fiftieth year.

JACOB ZEILINSKI, M.D.

Dr. Zeilinski died at his home, 120 Brunswick Ave., Toronto, on 21st March, at the age of 80. He had lived and practised in Toronto for many years. He was buried with Masonic honors.

WILLIAM DAVID McILMOYLE, M.D.

Dr. McIlmoyle was born in Fraserville, Ontario, in 1884. He graduated from the University of Toronto in 1908, and then took a post-graduate course in New York. He settled in Bracebridge in 1909, where he soon acquired a large practice. He married Miss Ethel Jackson, who, with two boys and a daughter, survives him. His death was sudden and unexpected after a slight operation. We extend to the widow our sincere sympathy.

CHARLES A. FISHER, M.D.

Dr. Charles A. Fisher, 37 years old, son of Lt.-Col. C. E. H. Fisher, Post Office Inspector, of London, Ontario, and a well-known physician in Detroit, died in that city on 25th March, after a brief illness. His parents were with him when he passed away. The remains were taken to London for interment. Dr. Fisher was a graduate of the Western University, London. He had been in practice in Detroit since 1902.

BOOK REVIEWS

THERAPEUTIC EXERCISE AND MASSAGE.

A Manual of Therapeutic Exercise and Massage, designed for the use of physicians, students and masseurs. By C. Hermann Bucholz, M.D., Orthopaedic Surgeon to Out-patients, Director of the Medico-Mechanical and Hydrotherapeutic Departments of the Massachusetts General Hospital, Boston, Mass.; Assistant in Orthopaedic Surgery, Harvard Medical School; Assistant in Phyical Therapeutics, Harvard Graduate School of Medicine. Illustrated with 89 engravings. Lea & Fibiger, Philadelphia and New York, 1917.

The subjects of exercise and the mechanical treatment of disease have been recognized for thousands of years; but, like every other department of treatment, have undergone change with the progress of the knowledge of disease, and the attaining of sounder views on phsiology. This work by Dr. Bucholz is a useful additional to the literature

on massage and th e mechanical methods of treating suitable conditions. This book will bear a careful perusal and will prove helpful to those who make use of its valuable suggestions.

INDIANA HOSPITAL REPORT.

Report from the Department of Pathology and the Department of Clinical Psychiatry, Central Indiana Hospital for the Insane, 1913-14 and 1914-15. Vol. VI. Fort Wayne Printing Company, 1916.

The reports from this institution are always of an interesting and instructive character, and this one is no exception. It contains much valuable material, both in tabular and text form. The articles by the various contributors are of distinct value from the original and scientific aspects.

THE CHICAGO CLINICS.

January, 1917, Volume 2, Number 4. Published bi-monthly by W. B. Saunders Company, Philadelphia and London. Price, $8 per annum.

The articles in this number are excellent and deal with topics of immediate interest. Number is well got up, and the paper and typography first class. This is a very valuable periodical for any practitioner to read, as it gives the most modern views on the diseases that come most frequently under the doctor's care.

PROGRESSIVE MEDICINE.

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by H. A. Hare, M.D., and L. F. Appleman, M.D., March 1, 1917. Lea & Febiger, Philadelphia and New York. Price, $6 per annum.

This number is the 73rd in the series, or number 17 of volume 20. The subjects discussed are: Surgery of the Head and Neck, by C. H. Frazier, M.D.; Surgery of the Thorax, by G. P. Müller, M.D.; Infectious Diseases, by John Ruhrah, M.D.; Diseases of Children, by F. M. Crandall, M.D.; and Rhinology, Laryngology and Otology, by G. M. Coates, M.D. It is needless to state that the articles are all that could be expected. No paints have been spared by the publishers to make progressive medicine one of the foremost works in medicine and surgery. It is for this reason that it has attained its present popularity and wide circulation. The writings in this periodical are always of a most highly suggestive character. It should find a place in every library.

CATARACT.

Senile, Traumatic and Congenital, by W. A. Fisher, M.D., Professor of Ophthalmology, Chicago Eye, Ear, Noce and Throat College. Chicago: Published by Chicago Eye, Ear, Nose and Throat College, 1917. Price, $1.50.

This volume of 119 pages covers the ground of the extraction of cataract in a very satisfactory manner. The various operations are clearly described and the best form of instruments set out in illustrations. To the ophthalmologist this work on the extraction of cataract will prove useful. It can be recommended.

COMMISSION OF CONSERVATION.

Water Powers of Manitoba, Saskatchewan and Alberta. By Leo G. Denis, B.Sc., E.E., Hydro-Electric Engineer to Commission of Conservation. Additional data respecting water powers by J. B. Challies, M.Can.Soc.C.E., Superintendent, Water Power Branch, Department of the Interior. 1916.

If one takes the trouble to look through this volume, it becomes at once apparent that there are great possibilities for the development of water power in Canada. Nature is rich in her gifts, and this is a most valuable one. The Commission is to be congratulated on the results of its efforts.

CANCER MORTALITY.

Mortality from Cancer and Other Malignant Tumors in the Registration Area of the United States, 1914. Department of Commerce, Bureau of the Census, Sam. L. Rogers, Director, Government Printing Press, Washington.

This report is a most valuable one. It is based on replies sent out to 35,000 physicians. The population of the registration area is given as 60,000,000. In this population there were about 50,000 deaths from cancer in 1914, with 20,000 among males and 30,000 among females.

GLAUCOMA.

A Handbook for the General Practioner. By Robert Henry Elliott, M.D., B.S. Lond., Sc.D., Edin., F.R.C.S., Eng., etc. Late Superintendent of the Government Ophthalmic Hospital, Madras; Late Professor of Ophthalmology, Medical College, Madras; and Late Fellow of the University of Madras; Honorary Fellow of the American Academy of Ophthalmology and Oto-Laryngology. H. K. Lewis & Company, 136 Gower Street, London, W.C., 1917. Price, 3s. 6d. net.

To the medical practitioner the subject of Glaucoma is ever an interesting one, because of the theories as to its cause, its serious effects upon the sight, the difficulty of its early diagnosis, and importance of proper treatment. The present volume takes up the question of glau-

coma under the following headings: The Anatomy of the Parts Concerned in Glaucoma, The Intra-celular Pressure and the Tension of the Eye, The Pathological Anatomy of Glaucoma, The Causes of Glaucoma, The Diagnosis of Glaucoma, The Signs and Symptoms of Glaucoma, The Treatment of Glaucoma, Secondary Glaucoma, and Congentital and Juvenile Glaucoma. There are thirteen appropriate illustrations. The book is well written and may be accepted as an excellent guide on all the topics outlined above. The treatment is especially well set forth and should b welcomed by a large number of the profession. The book is got up in most attractive form.

MISCELLANEOUS

QUACK TREATMENT OF VENEREAL DISEASES.

The President of the Local Government Board (Lord Rhondda) on January 24th received a point deputation from the Royal College of Physicians of London, the British Medical Association, the National Council for Combating Venereal Diseases, and the Association of Municipal Corporations.

The deputation asked that legislation be introduced for the elimination of quack methods in the treatment of venereal diseases.

Sir Hamar Greenwood, M.P., Vice-President of the Association of Municipal Corporations, who introduced the deputation, said that a resolution on the subject had been adopted by that body.

Dr. Frederick Taylor (President of the Royal College of Physicians) said that the College had passed a resolution identical with that of the Association of Municipal Corporations. These diseases, he added, ought to be treated by those who knew how to do so. Members of the medical profession had to go through a course of training of from five to seven years, and had to be admitted to the *Medical Register* before they could claim to deal with any branch of medical treatment, yet unqualified persons, without training or without any guarantee that they were acquainted with disease, were permitted to treat it. The medical profession had promoted every measure of sanitary reform which meant the abolition of diseases, in spite of strenuous opposition from many quarters. Persons suffering from other infectious diseases were placed under proper control during treatment. Patients suffering from scarlet feved or typhus, for example, were isolated. In the case of these diseases the patients were incapacitated from work. Those suffering from venereal

disease were not necessarily incapacitated; they could escape recognition for weeks or months, and might remain untreated. He emphasized the point that the treatment ought to be conducted by scientific and skilled methods, and therefore by qualified persons.

Mr. E. B. Turner (Chairman of Representative Meetings of the British Medical Associations) said that the Association had passed strong resolutions on the subject. It felt that it was extremely important, first, that advertisements of the form of quackery in question should be stopped. A person affected with venereal disease was not only dangerous to himself and to the community, but also in many cases to posterity. The medical profession, in seeking to bring about efficient means of treating these diseases in the early stages, was working for the good of the community. He mentioned that point because he had had it thrown in his teeth that the profession was working for its own interests.

Sir Malcolm Morris expressed the hope that Lord Rhondda would introduce a bill to suppres sthe quack treatment of venereal diseases.

The Lord Mayor of Birmingham and Mr. J. W. Willis Bund also spoke.

Lord Rhondda, in reply, said his department fully realized the burning nature of the question of treating venereal diseases, and he had been impressed with the necessity of dealing with it as a war measure. It affected not only the health of the population to-day but the health of future generations. Of all the matters that came before the Local Government Board he could sincerely say that he looked upon the treatment of these diseases as one of the most important, and he would go further and say that it was the most urgent question with which his department had to deal. He was not in a position to commit himself to anything definite, but he thought he could give the assurance that legislation would be procured at a very early date. In reply to a vote of thanks, he added that as far as he was concerned the deputation might dismiss from their minds an ysuggestion there might be that the medical profession were actuated by selfish motives in their hostility to quack methods. —*British Medical Journal.*

CHIEF CAUSES OF DEATH IN TORONTO.

The following table makes comparison of the deaths from fifteen chief causes in January, 1917 and 1916. In spite of the favorable comparison with last year, the figures for pneumonia and other respiratory diseases are abnormally high.

Deaths from Fifteen Chief Causes—January, 1917 and 1916.

Causes of Death.	Number of Deaths, January, 1917.	January, 1917.	January, 1917. Incr.	Decr.
Pnepmonia and bronch-pneumonia	126	150	..	24
Cancer	45	28	17	..
Organic diseases of heart	44	32	12	..
Congenital debility and malformations	40	22	18	..
Tuberculosis (all forms)	36	25	11	..
Premature birth	22	16	6	..
Cerebral haemorrhage and softening	22	41	..	19
Acute nephritis and Bright's disease	18	22	..	4
Senility	16	15	1	..
Influenza	13	22	..	9
Violence (including 1 suicide)	13	11	2	..
Acute contagious diseases	10	81	..	71
Bronchitis	10	13	..	3
Appendicitis and typhilitis	9	3	6	..
Meningitis	7	7	..	..
Tuberculosis, including deaths of Toronto people in sanatariums	47	37	10	..

ONTARIO MEDICAL ASSOCIATION.

THIRTY-SEVENTH ANNUAL MEETING AT TORONTO,
May 30th, May 31st, June 1st, 1917.

Wednesday, May 30th.

10.00 a.m.—Meeting of Committees.
11.00 a.m.—Business meeting.
12.30 p.m.—Luncheon in Building.
2.00 p.m.—General Session.
Symposium on Venereal Diseases—Drs. Connell, Dogg, Goldie, Nair, and others.
Address in Gynaecology—Dr. Chipman, Montreal. "Treatment of Prolapsus Uteri."
4.00 p.m.—Garden Party.
8.00 p.m.—General Session.
President's Address.
Address in Medicine: Dr. Christian, Boston, "Nephritis and Diuretics."

Thursday, May 31st.

9-12 a.m.—Meeting of Sections.
2.00 p.m.—General Session.
"The Evolution of the Surgery of the Biliary System."
Laryngectomy. Dr. McKenty, New York.
Address in Surgery. Dr. W. W. Babcock, Philadelphia:
3.30 p.m.—Business Meeting.

8.00 p.m.—Evening Session.
4.30 p.m.—Garden Party.
8.00 p.m.—Evening Session.

"Recent Advances in the Operative Treatment of Intra-cranial Conditions."—Dr. William Sharpe, New York.

Friday, June 1st.

9.00 to 12.00 a.m.—Section Meetings.

SECTION IN GYNAECOLOGY AND OBSTETRICS.

Demonstration of the Right Oblique Diameter in Midwifery.—Dr. Mc.Cabe.
Treatment of Fibroids.—Dr. Angus McKinnon.
Ligamentous Suspension With Intra-abdominal Treatment of Cystocele in Uterine Prolapse.—Dr. Klotz.
Some Points in the Pathology of the Endomentrium.—Dr. F. P. Watson.
The Toxemias of Pregnancy.—Dr. Frawley.
Caesarian Section.—Dr. McIlwraith.
Retained Placenta.—Dr. W. J. Mabee.

Other papers are promised by Dr. Holmes, Dr. Oliver, Dr. Ernest Williams.

SECTION IN SURGERY.

Varicose Veins.—Dr. E. R. Secord.
Mortality Incident in Surgery.—Dr. J. K. McGregor.
Surgical Treatment of Gastric Ulcer.—Dr. D. C. Balfour.
Post-Operative Treatment of Abdominal Cases.—Dr. I. Olmsted.
Gastric Stases, Its Clinical Significance.—Dr. W. J. McDonald.
The Cystoscope, an Essential in Genito-Urinary Surgery.—Dr. Colin L. Begg.
Exophthalmic Goitre.—Dr. H. Lackner.
Surgical Kidney.—Dr. Mowbray.
Suprapubic Prostatectomy.—Dr. N. H. Beal.

SECTION IN MEDICINE.

Gonorrheal Septicaemia.—Dr. Stobie.
Blood Urea.—Dr. Campbell.
Cyclic Vomiting.—Dr. J. Loudon.

Other papers have been promised by Drs. W. P. Caven, Minns, Bates, McPhedran and Richardson.

The Section in Ear, Eye, Nose and Thorat has also arranged a good program and exhibition of cases.

REGULATION OF PRACTICE—CHRISTIAN SCIENCE.

Public Health Law (Consol. Laws, c. 45) sec. 160, subd. 7, declares that a person practises medicine who holds himself out as being able to diagnose, treat, operate, or prescribe for any human disease, etc., and who undrstakee to diagnose, treat, or prescribe for any human disease, etc.; section 161 provides that no one shall practise medicine unless legally authorized prior to Sept. 1, 1891, "unless licensed by the regents and registered under article 8 of chapter 661 of the Laws of 1893 and acts amendatory thereto"; section 173 excepts the practise of the religious tenets of any church, and Const. art. 1, sec. 3, provides that the free enjoyment of religious professions and worship shall be allowed to all. Defendant, indicted for practising medicine without registration, was a member of the Christian Science Church and a recognized practitioner within its rules, and at his office, and for a charge, gave a "treatment" by interposing with God by prayer that the disease, or inharmony between the Divine Being and the sufferer, might be adjusted, it being a tenet of the Christian Science Church that such prayer would completely cure disease. *Held,* that the purpose of the statute was to protect persons from being treated for diseases by those without adequate training or education; that defendant did "treat" the investigator by "any means or method," but that if he was in good faith practising the "tenets of a church," which are the beliefs, doctrines, and creeds of the church as an organization, as distinguished from an individual, he would not be guilty. In such prosecution, whether defendant, claiming to be practising the tenets of the Christian Science Church and accepting compensation therefor at his office, was within the exception of the practice of the religious tenets of any church was a question for a jury.—People v. Cole, New York Court of Appeals, 113 N. E. 780.—*Medical Record, February* 1917.

MEDICAL PREPARATIONS

THE RECOVERY FROM TYPHOID.

In spite of the improvements in general sanitation, typhoid fever still continues to exist, and is especially prevalent during the fall and early winter months. It is more than probable that most cases occurring in the larger cities are the results of infections contracted at the

summer vacation resorts, where the water and food supplies are not as carefully safeguarded as in urban communities. Although many forms of treatment, designed to abort or cut short the disease, have been advocated from time to time, it is indeed doubtful whether such regulation of the infection has ever been accomplished. As the average course of typhoid is from four to six weeks, it is scarcely to be wondered at that the patient usually emerges from the attack in a generally devitalized condition. This is accounted for not only by the general toxemia incident to the bacillary infection, but also because the practically exclusive milk diet generally adopted deprives the patient of the natural food iron which ordinarily maintains the ferric sufficiency of the blood. Some degree of anemia is therefore almost always in evidence when convalescence is first established. The quickest and safest way to overcome this blood deficiency and to hasten revitalization and a return to the normal, is to give Pepto-Mangan (Gude) regularly and in full dosage. This thoroughly agreeable and acceptable hematic tonic is particularly serviceable in typhoid convalescence, because it does not irritate or disturbe the digestion, nor induce constipation.

IN CHILDREN AND IN OLD PEOPLE

Kidneys are often affected by exposure to cold or chill. These disturbances may range from sudden and frequent desire to urinate to the severe forms of urinary irritation. The first is usually accompanied with free and excessive flow of water, where in the latter case there will be but a small quantity of water, frequently passed with difficulty and pain. If the cause is not removed, this dysuria with frequency may continue day and night until systatis occurs, or until a spastic renal condition is found to be present, with active congestion followed quickly by accute inflammation. The remedy is heat persistently applied externally to produce relaxation and sanmetto in drachm doses for adults every hour until relief, then less ofte n as indicated, and half doses for children in like manner. Particularly is it true with men suffering from prastatic trouble that they are often affected by exposure to cold or child, causing congestion at the bladder neck, with frequent desire to urinate, and urine passed with difficulty and pain. Hot applications externaly, either moist or dry, and sanmetto in teaspoonful doses every hour until relief, is the remedy.

Pituitrin O. and Pituitrin S.

We manufacture two preparations of Pituitrin—one for use in obstetrics, one for use in surgery.

Pituitrin S. (surgical) is *twice the strength* of **Pituitrin O.** (obstetrical).

Pituitrin O. is designed for use in the treatment of uterine inertia when there is no mechanical obstacle to a natural delivery.

Pituitrin S. is adapted especially for the treatment of post-operative intestinal paresis with its attendant pain and tympanites, vesical atony with retention of urine, shock, and inaccessible hemorrhage.

Pituitrin O. is supplied in ampoules of 1 mil (1 Cc.) (No. 16) and ½ mil (½ Cc.) (No. 47), also in ½-oz. glass-stoppered bottles.

Pituitrin S. is supplied in ampoules of 1 mil (1 Cc.) only (ampoule No. 110).

Two facts of tremendous significance.

1. Approximately ten per cent. of all deaths in the United States in recent years, it is said upon good authority, have been the result of pneumonic infection.

2. Clinical reports show that more than eighty per cent. of cases of pneumonia recover under treatment with

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