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THE

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Original Communications.

TUBERCULOSIS CONFERENCE OF CANADA.

HELD IN THE CONVOCATION HALL OF THE NORMAL SCHOOL, OTTAWA, FEBRUARY 14TH, 1901.

On the call of Their Excellencies the Governor-General and Countess of Minto.

ADDRESS

BY

HIS EXCELLENCY, THE GOVERNOR-GENERAL, THE EARL OF MINTO.

Ladies and Gentlemen,—When I first invited the leading members of the medical profession to meet me here to-day, I did not dare to anticipate anything approaching the influential gathering of distinguished men I now see before me. I am well aware that many of you have travelled great distances at much personal inconvenience, and I can only assure you of my deep appreciation of your support, and of my hope that the expert knowledge you can bring to bear on the subject you have come to discuss, may not only assist to place before the public the immense national importance of the objects we have in view, but will encourage that public to unite in one common effort to defeat the evil which is so surely undermining the health of the people.

It was in September last that during the meeting of the Canadian Medical Association at Ottawa, an Association for the Prevention of Tuberculosis was provisionally organized, and the purpose for which I have asked you to assemble to-day, is to establish that association on a permanent basis, and to discuss the measures best calculated to promote the objects of the association.

The pith of those objects is, I think, expressed in the first resolution on the programme for to-day's meeting, "That it is the duty of every government, municipality and individual citizen to adopt organized

methods for lessening the spread of disease which is causing directly or indirectly probably one-fifth of the total deaths in the Dominion."

How the association can best attain the aims it has in view is a matter for the experts present here to-day to consider, but whatever conclusion they may come to as to the best means of combating the evil they have to face, the success of their efforts must to a large extent depend on the assistance and goodwill of the public itself. That that public should fully realize the danger which surrounds it, will be one of the main objects of the association.

The miseries of consumption, many of us know too well. The fading away of many a charming young life, the breakdown of many a manly constitution, but I do not know that we have yet looked beyond our individual griefs to realize the ravages of the common enemy.

Even now, we have not perhaps fully accurate data to go on, but we believe that the early settlers on this continent were a healthy race; we are proud of this health-giving Dominion of Canada, and yet we know that this terrible consumptive death rate is steadily increasing.

I am told that 10 years ago the annual deaths from consumption in Ontario were 2,400; in 1899 they were 3,405; from 1887 to 1898 they amounted to 31,699, and I believe the annual estimate now of deaths from the same cause in the whole Dominion is between 7,000 and 8,000.

One very suggestive, and very encouraging piece of information given to me is that over the period I have just quoted to you, viz., from '87 to '98, when the consumption death rate of Ontario amounted to 31,699, deaths from smallpox were only 31.

I say encouraging, because we all know something of the now almost traditionary horrors of smallpox, and can gratefully recognize what vaccination, quarantine and reasonable precautions have done for us.

And now science comes to our aid again and tells us, that though the germs of this deadly consumption can be communicated from one person to another, or from animals to human beings, that still it is without doubt a preventable disease; that with certain precautions, ascertained by modern discovery, its inroads can be arrested. These precautions the association will do its best to promulgate.

You are fortunate in Canada in possessing an excellent system for the administration of matters of public health. You have both your provincial and Dominion machinery, the former thoroughly capable of dealing with detailed organization, whilst the latter can do everything to ward off the importation of disease from outside, and can, so to speak, do very much to assist and direct the general policy of the campaign.

I have no intention, gentlemen, of entering into any detailed consideration of the spread of consumption or the manner in which your future

labours should be conducted. In the presence of so many experts it would, I feel, be out of place for me to do so. My personal object in asking you to meet me here to-day, is to join with you as the leading representatives of the medical profession, in pressing upon the people of Canada the urgent necessity of combating the danger which besets them. The task before you is not an easy one, but I have no doubt you will determine that the battle must be won. Look back at the medical and surgical triumphs of last century, and remember that we have now to a great extent passed the age of research, and stand where scientific knowledge gives us the power to act. I hope, gentlemen, that, possessed as you are of that scientific knowledge, the work you have so patriotically undertaken may, as years go on, do much to contribute to the health and happiness of your fellow countrymen.

ADDRESS

BY

SIR JAMES GRANT, M.D., K.C.M.G.

The object in view by His Excellency in calling you here to-day is no doubt well known. This is the initial stage of a new century, the progress and advancement of which cannot be better marked than by the guidance and direction of our people in matters of public health. Conventions of a like character are now being held in many of the great centres of the world, and the present effort of His Excellency to give a helping hand to the people of Canada, in order to stay the spread of tuberculosis, cannot but be accepted with feelings of thankfulness and gratitude from ocean to ocean.

It is a well known fact that already two distinct races have passed away on the North American continent, and there is little left as to their history but mounds in the West and vestiges in Florida, as records of the past.

The acceptance of any great truth in science generally is proverbially slow and gradual as to recognition. Antiseptic surgery was fully twenty years leading to victory. To-day we are nearing the twentieth year of the discovery by Dr. Koch of the germ of tuberculosis, which for really practical results has no equal in the past century. By the present congress we have now entered on the economic stage, in order to demonstrate beyond a doubt the aim and object of the noble and philanthropic work now undertaken. By public hygiene within the past fifty years, a great change has taken place in the reduction of the death rate from such diseases as cholera and yellow fever. "The White Plague," consumption, is without doubt the scourge of our present race, destroying more than 5,000,000 annually. The yearly death rate in Canada is now

estimated at between 7,000 and 8,000. In the neighbouring republic, the fatality from this disease is, by the best authorities, rated at 150,000 annually. In Great Britain and the Continent the results from this malady are not encouraging. Do not such records touch the sensibilities of all concerned? We are here to-day representing the homes and firesides of our Canadian people, to consider what can be done under the trying circumstances. The national and civic interest in this subject, aroused within the past few years, gives evidence of the determination to stamp out tuberculosis as far as possible. Our ideas of this disease have changed from heredity and incurability to communicability and curability, thanks to the marked progress of scientific investigation. The prevalence of this disease among the poorer classes in small houses, without adequate nursing or physicians to guide and direct them, and frequently shut out from general hospitals owing to the danger of communication and the want of special space, develops a most difficult and trying problem that demands immediate solution.

A series of resolutions has been carefully formulated and is now to be presented, taking up *seriatim* the chief points for consideration; and I feel confident that in the hands of many of the master minds of the profession in Canada, as well as lay members of well-known practical ability in the affairs of everyday life, great good will result from the untiring efforts of His Excellency to guard the best interests of our people.

Resolution No. I.

Whereas, in view of the general prevalence of Tuberculosis in Canada, and of the very high mortality caused by the disease; in view of the communicable nature of the same, and of the constant and continued dangers caused by its chronic and usually prolonged course, during which a patient may infect not only one house but many other places of temporary or permanent abode; and especially in view of scientific facts going to show the curability as well as the moderately contagious character of the disease in its early stages:—

Resolved, that in the opinion of this Conference, which represents the Governments and people of every part of Canada, it is the duty of every Government, Municipality, and individual citizen to adopt organized methods for lessening the spread of a disease which is causing directly or indirectly probably one-fifth of the total deaths in the Dominion.

ADDRESS

BY

JAMES STEWART, M.D.,

Professor of Medicine and Clinical Medicine, McGill University; Physician to the Royal Victoria Hospital, Montreal.

The first resolution on the paper before us deals essentially with the measures which should be adopted to lessen and prevent the spread of tuberculosis. Scientific medicine has shown clearly and indisputably the cause of this widespread disease, and has indicated how it is to be lessened and, possibly, entirely eradicated. To accomplish this end there must be a combined effort on the part, not only of general and local governing bodies, but also of individuals generally.

There can be no doubt that it is the duty of the government of all civilized communities to safeguard the lives of its citizens. This is stipulated in the fundamental laws of that great country to which we have the honour to belong. Tuberculosis in its manifold manifestations is the most potent cause of misery and death, and yet how little have been the efforts made by any government to stamp it out. What untold sums are spent and how many valuable lives are lost in defending and spreading the business interests of the nations, and in upholding national honour and national pride! There are signs, however, of an awakening in many places, and this meeting is an evidence of that, and will, we all hope, lead to some measures of practical reform of a public character.

Before much can be accomplished, people generally must be educated up to a clear knowledge of what tuberculosis is and how it is to be lessened. Government can very rarely legislate beyond the average of intelligence. The medical profession for many years now have been doing a great deal to inculcate into the minds of people what tuberculosis is, and the value of fresh air in its prevention and cure. Individual efforts of this kind would have to extend over a long period before there would be a general recognition of the facts. What is wanted is the powerful and widespread influence of the public press, the greatest lever for banishing ignorance, when used rightly. A combined effort of the public press for a short time, would do much more than the individual efforts of decades. We want, however, a pure press. We do not want, for instance, an article in one part of a public newspaper pointing out the true nature and treatment of tuberculosis, while another part of the same sheet is given over to some quack's advertisement, pretending to cure the disease. Are there any newspapers in Canada to-day that do not contain advertisements of alleged cures of tuberculosis?

The most important measure for the prevention of tuberculosis is the

establishment of homes and sanatoria for the poor. Sanitoria for cases of incipient disease, and homes for advanced cases, where a cure is improbable. This is a duty devolving on the State. The State, through negligence, has been the means of allowing a preventible disease to have full sway. The State owes it to the victim of tuberculosis to help him to save his life, and the sanitorium treatment offers the best means of accomplishing this. In Germany, sanitoria for poor people afflicted with tuberculosis have been in use for several years. One of the best known is that at Goerbersdorf in Silesia. In 1899, 881 patients were treated at this place, the expenses in 774 cases being borne by insurance associations. The societies in which the German workman is insured consider it a wise policy to pay the expenses of those insured who have become tuberculous. They find this infinitely cheaper than allowing the patient to have his own way. This fact is a strong tribute to the good results obtained at the sanitoria. About three months is the period looked upon as being necessary to effect a cure, or rather to place the person in a position, that he can afterwards continue the treatment and do work at the same time. After a stay of three months, fully 75 per cent. were able to resume their work. The investigations made at this hospital into the duration of the good results of the treatment are most interesting and instructive. Of 200 patients treated during the year 1896, 89 per cent. were able to resume their work after their stay at Goebersdorf ; but as a result of subsequent careful inquiries, only 56 per cent. could be ascertained to be at work in 1898 ; in the following year, 46 per cent., and in 1900, 40 per cent. were still in active work. Such figures are of great value in regard to the question of sanitorium treatment, and it is to be hoped that more will be forthcoming.

Homes for cases of advanced tuberculosis are urgently needed. Such cases rarely recover, but everyone in that state has a right to demand that they should have all the advantages that modern scientific medicine can bring to bear, not only in the alleviation of their sufferings, but in the possible arrest of their disease. Such patients (I refer to the incurable cases) are in a certain sense virtually prisoners, and suffer both mentally and physically as a result of their affliction. The least the community can do for them, is to ensure them all the advantages of proper treatment.

In this great question there is another important particular in which it is the duty of the government to step in, that is, the enactment of laws that will prevent those afflicted with tuberculosis from working at trades in which there is a danger of contamination of food and clothing. To go to the extreme of preventing the tuberculous from all occupation, would neither be practical nor wise. Whether it is practical or not to

pension tuberculous subjects is a question rather for the legal than the medical profession.

Resolution No. II.

Whereas, the British North American Act places the duty of legislating in regard to municipal health matters, upon the various Provinces of Canada:—

Resolved, that this Conference does especially urge upon those Governments, and all Municipal Councils and Boards of Health, the enactment of such legislation as will,—

1. Encourage the notification of all cases of tuberculosis,
2. Tend to prevent the spread of infection through expectorating in public buildings, conveyances and private dwellings,
3. Extend the inspection of places where work-people assemble, with a view to improving their ventilation, lighting, and general sanitation,
4. Assist in preventing the spread of the disease through milk and meat of animals,
5. Aid in providing some scheme, such as that placed on the Statutes of Ontario in 1900, whereby organized effort of the people may be assisted by Government and Municipal aid in providing Sanatoria or "Homes," where the curable may be given an opportunity to recover, and the advanced cases cared for with comfort to themselves and with freedom of danger to those in the homes to which they belong.

ADDRESS

BY

J. G. Adami, M.D.

Professor of Pathology, McGill University, Montreal.

It is not for me this afternoon, professor of the science of medicine though I be, to take up the well worn theme of the nature of tuberculosis, to demonstrate once again how this disease is due to the entrance into and action within the body of a minute living organism—not for me to discuss here the communicability of the disease from man to man, from animal to animal, and from one species to another. We accept this and the Government already through its Orders in Council has accepted this. Tuberculosis is an infectious disease and as such we know that it is a preventible disease. In the words of him whom now we hail as King, uttered in the course of that broad minded address with which he opened the International Congress of Hygiene in London in 1891, words which it was my privilege to hear, "If preventible, why not prevented."

At its morning session this Conference has by resolution urged upon the various Provincial Governments of this Dominion, the enactment of such legislation as will tend to prevent the spread of tuberculosis. We have now to ask: Can the Federal Government help on the good work and if so by what means? Finding that there are means whereby it can aid in the prevention of tuberculosis, it behoves us to employ our united efforts to induce the Premier, the members of his cabinet and the members of both Houses of Parliament, to undertake such legislation as, affecting the whole Dominion, shall in its turn surely diminish the burden laid upon the progress of our country by this scourge.

Now, gentlemen, as it has already been pointed out, the provisions of the British North America Act place the duty of legislating upon municipal health matters in the hands of the various provinces, and in the prevention of tuberculosis, as in almost every other matter connected with the health of the people, there is an ever present difficulty in defining with exactitude what is municipal and what more than municipal. It may, that is, be argued that all legislation bearing upon the tuberculous patient, whereby he is rendered less dangerous to his neighbours, is strictly a concern of the different provincial governments, that it is the duty of the municipality, if I may so express it, to look after the prevention of the entry and spread of an infectious disease in its midst, and that so the Federal Government would trespass upon the prerogatives of the provinces in venturing to enact general legislation directed to the stamping out of this or other disease.

Happily—if happily be not too grim a term—the very prevalence of the scourge throughout our country from one ocean to the other elevates this campaign against it, to a more than provincial dignity. Tuberculosis is a disease confronting and menacing the whole nation and the eradication of tuberculosis is a national concern. He would be too provincial, too contemptible in his narrowness, who would raise his voice in opposition to any well-considered scheme whereby the Federal Government could lessen the incidence of the disease, could improve the condition of our people, could add to the years and productivity of the average Canadian, and could better our position as a race. He again deserves no consideration, and in the certainty of our present knowledge his opposition must be regarded with deserved suspicion, who opposes plans of the Federal Government to arrest the extension of tuberculosis among our cattle, plans which, pursued actively in other countries, have been of proved efficiency; plans which by stamping out tuberculosis would improve the market value of our cattle and make Canada the premier breeding ground of the world for high class cattle unsullied by disease; who, in short, seeks to hinder the government from benefiting

that class of our community which—and not the miners of the Klondyke, the smelters of Cape Breton, the manufacturers of Quebec and Ontario, or the dealers in cattle across the line—is and must continue to be the mainstay of Canadian prosperity. I mean the Canadian farmers.

As I have pointed out elsewhere, the practical eradication of bovine tuberculosis in Canada, is no vain imagining. In Denmark, already, within a few years, the prevalence of tuberculosis in cattle has been reduced from 40 to 23.9 per cent. In Canada the disease has as yet gained little foothold. All the information in our possession indicates that its prevalence is less than 1 per cent. It would thus require a relatively small sum for our Government to make bovine tuberculosis practically unknown. There is no other country so favorably situated. Denmark has found its heroic effort a very heavy labor; it, as I say, had 40 per cent. of its cattle affected. It has afforded the outlay and is already reaping the benefit. We must do the same. We must do this from economic reasons because of the terrible loss which the spread of tuberculosis would surely bring upon our agricultural community. There is no question that with increased intercourse tuberculosis has spread rapidly in the Eastern States during the last 15 years. This disease, it is estimated, causes at the present time the annual loss of $18,000,000 in Germany alone, and with this the absolute ruin of many individuals. Nor is this the only reason. The very fact that in Great Britain, where tuberculosis has during the last 30 years decreased marvellously, no decrease has taken place in intestinal tuberculosis in young children, indicates that in these children there is some cause at work not effective at other life periods and, by exclusion, this other cause can only be the drinking of milk from tuberculous cattle. I do not say—I do not believe—that in Canada with the rareness of bovine tuberculosis in general and with the extraordinary rarity of the most dangerous form, namely, tuberculosis of the mammary glands, we have at the present moment very much to fear on this account. Nevertheless, there must be individual cases of the spread of the disease from cattle to man, and it is our duty as a people to eradicate tuberculosis in cattle lest, spreading, the little children becomes exposed to danger.

But here I am allowing myself to digress from the strict lines of my main contention, which is, that this prevention of tuberculosis is a national matter, one fraught with as great benefit as we can well imagine to the health and prosperity of the country. What we have now to determine is how far can the Government proceed in the attempt to repress tuberculosis. It seems to me that the parts which can be played by the federal and provincial governments in this matter can best be indicated,

say, by the parable of the departmental store. It is not to be thought of that he who is the head of one of those huge concerns, transacts every item of the business of the store; it is left to the chiefs of the different departments to overlook and to transact the main business; indeed, each department is to a large extent autonomous and the success of each depends upon the capacity of its manager who superintends the buying in supplies, determines the price to be marked upon the various goods and is responsible for keeping his department in good and attractive order and so on. But there are certain powers which obviously these heads of departments cannot possess. The manager of one section cannot be allowed so to conduct his department as to cut into the business of and be detrimental to another department of the store. That, the head of the business must immediately prevent. While the departmental chief is responsible for the good health and condition of his staff and can order home any employee who appears to be in bad health, he, nevertheless, cannot run his department upon hygienic principles different from that of the establishment as a whole. He may open or close the windows and doors of his special department to a certain extent, so far as he thinks this improves the condition of that department, but the moment his methods incommode other parts of the establishment he is liable to be called to order, and obviously the main process of ventilating and warming the establishment as a whole must be under central control.

So it is in matters of health, the individual provinces have the right to make regulations affecting the health and welfare of the people inhabiting those provinces, but the moment such local legislation, by excess or defect, threatens the health of other provinces, it is in the power of the Federal Government, for the benefit of the country at large, to intervene and establish legislation which will prevent such harm being done. So it is that certain hygienic legislation of benefit to the country as a whole, must be undertaken by the Federal Government and by that Government alone. And this is clearly recognised. Quarantine and the inspection of individuals entering the country are a Federal matter, so again is the inspection and testing of imported animals to prevent the entrance of disease into the country as a whole. So again, wandering a little farther afield to illustrate the necessary power of the Federal Government, are the taking of the census and the regulation of the means of communication between the different provinces, within its power and, to give another example, the establishment of experimental farms in various regions of the Dominion. This last, it should be clearly understood, is not primarily for the benefit of the immediate localities in which those farms are situated, but for the broader purpose

of gaining a knowledge of the resources of the Dominion—for the benefit of the country and of its people in general.

Grasping these general ideas, we gain a knowledge of what we are justified in asking the central Government to undertake in support of our endeavors to stamp out tuberculosis. We are justified in asking it —nay, we must ask it,—to introduce such measures of a broad nature applicable to the whole country as shall tend generally to reduce the incidence of the disease, measures which if left to the initiative of the different provinces to introduce would be stultified and rendered of no avail should one or more province neglect to enter them upon their statute books.

And this afternoon we are, I hope, to ask the Federal Government to introduce broad measures which shall be of benefit to the country at large, which cannot well be left in the hands of the individual provinces. Thus, for example, the Government has already established by-laws tending to prevent the entrance of tuberculous cattle into the country, and we would ask the Government to give even greater powers to its officers to inspect our borders. What is the use of our attempting local or Federal legislation against tuberculosis in cattle, if it is still possible for diseased animals to be continually dribbling into Canada and becoming mixed with and infecting our herds from one end of the country to the other. I hope that Dr. McEachran the head of the Dominion Veterinary Service, will address you upon this mattter.

Let me repeat, the Government already possesses and uses this power of inspecting and condemning imported animals suffering from tuberculosis, and if this be so, *a fortiori*, we can call upon the Government to prevent the entrance into the country of human beings, of new settlers showing signs of the disease. While we desire to see Canada growing, and while we seek a larger population, what we want here is an infusion of strong healthy blood. We want no weaklings to be an incubus and worse. We must discourage the admission of weaklings and of those who surely will spread pestilence among us.

I have already stated that the Government has the right to ordain a census and a registration of all the inhabitants of the country. Those same rights surely permit the Government to supervise and to a certain extent control, the health statistics of Canada at large. The health statistics of the different provinces must, I need not say, be left in the hands of the Registrars-General of those provinces, but it is within the power of the central Government to demand periodical returns with regard to the health of the provinces, and so of the country at large, and to exact that these returns be as nearly as possible accurate. For us to know how and where to fight this foe, it is a matter of supreme im-

portance that we should know where tuberculosis exacts the greatest number of victims, what are the unhealthy zones in our country, and what occupations are carried on in such a way that tuberculosis claims an excessive proportion of the deaths occurring among those employed in such occupations ; in order, that is, to know how to fight tuberculosis and to know also where to fight it, a well organised series of reports from all the provinces becomes essential.

In the third place, just as the central Government has established experimental farms in various regions to discover the value of the soils of those regions, to see what will best grow there, so, surely, we can call upon it to aid in establishing sanatoria in each of several typical Canadian climes in which the therapeutic effects of those climes may be scientifically studied and the results published for the information of the general public. One of the great advances made during the last few years has been this recognition that it is not necessary to send the tuberculous patient far from home, to send him on a long sea voyage to the antipodes, or to banish him to the high Alps: rest, good food, sunshine and life in the open air, sheltered from cold winds, will bring back health to the sufferer who is not far gone in the disease. So it is that tuberculous patients can be treated even in their own homes, or certainly in the outskirts of our large cities.

While this is the case, it is equally certain that some climates are more favorable to certain classes of cases than are others ; that cases so far advanced that death in the near future is a certainty in certain climates, if transported to other climates, gain arrest of the disease and long years of usefulness. Altitude, for example, is not all important but it would seem clearly to be a very material aid in the cure ; a moderately damp climate is not by any means necessarily fatal but certainly a dry climate and absence of any rapid and extreme changes of temperature cause the health of the patient to improve more rapidly.

I have studied the results obtained in the east at moderate elevations, such as occur in the Adirondacks and the Laurentian Mountains at St. Agathe, and have no hesitation in stating that the results obtained there in the treatment of tuberculous patients are wonderful. The good results obtained in this province at Muskoka are doubtless familiar to all here. I have studied further the conditions obtaining in the dry belt of British Columbia, in the Kamloops district, and the results there appear to be even more wonderful. What we want is, that sanatoria be established throughout Canada in each province and district, and that they be run according to some accepted general plan, so that we may know how best to arrest and to cure the ravages of this disease in different individuals. It is only by the aid of the Federal Government that we can gain uniformity of observation.

And lastly, as the Federal Government has of necessity large powers in legislating with respect to railway companies, whose operations are not provincial but are continental, so for the sake of those of us who are free from this scourge, we have a right to ask the Government to make arrangements with the different railway companies for our protection, so that those who are obviously suffering from the disease and are discharging as they cough, as Dr. Nuttall has shown, actual billions of tubercle bacilli in the twenty-four hours, and thus are constantly in danger of infecting the railway coaches,—we have the right to ask that the Government makes arrangements with the railway companies to segregate these individuals from the rest of the travelling public, and as it is well that these patients be not kept in the midst of the general population, and that they be encouraged to go to sanatoria and hospitals that there be provided special facilities for their transportation.

I only trust that in briefly defining these points in which we can ask the Government to help us, I have not stolen the thunder of those who are to follow.

Do not think that this is the sum total of all that we can logically ask the Government to do. For my own part, for example, I am very strongly of opinion that the Government should make an experiment in a well defined area to demonstrate that tuberculosis can be wholly eradicated from our herds. I long to see the Government joining hands with Prince Edward Island, which is certainly a well defined and well cut off area, in aiding the farmers there so to weed out infected cattle from their herds, that there be not a single case of the disease in the whole island. This would be a magnificent object lesson and one well worth the small sum it would cost to the central Government. However, we must not now bring forward too many schemes. We can, I believe, reasonably ask the Government to take steps along the paths already indicated and I would therefore propose the following resolution:—

Resolution No. III.

Whereas the Constitution of the Dominion of Canada especially delegates to the Federal Government general quarantine in matters of public health, both of men and animals, as well as matters of statistics; and in view of the fact that in tuberculosis we are dealing with a disease which not only lessens national prosperity through the loss of lives, but also by enormous expenditure through sickness and loss of labor.

Resolved, that it is the view of this Conference that in a disease whose influence extends from questions of the inspection of immigrants to that of imported cattle, and affects the output of our farms and of our factories, the Federal Government may greatly assist in the fight against tuberculosis by:—

1. Preventing the entrance into the country of tuberculized immigrants and tuberculized cattle.

2. Arranging with the Registrars General of the provinces for a system of Federal Health Statistics of deaths.

3. Establishing a sanitorium in each of several typical Canadian climates, where under careful medical supervision the therapeutic effects of dry or moist, high or low, forest or prairie climates may be scientifically studied and the results published for the information of the general public.

4. Making an annual grant for the preparation and distribution of literature regarding the means of prevention and cure of tuberculosis; and for adopting such other measures as will bring the objects of this Conference before those individuals and corporations whose privilege and interest it will be to encourage the work.

ADDRESS

BY

PROF. McEACHRAN, D.V.S.

WHY IMPORTED CATTLE SHOULD BE TESTED BY TUBERCULIN.

The necessity for enlightening the masses on a subject which has not only an important bearing on public health, but touches directly our agricultural and commercial prosperity—is, I am glad to see, at last dawning on the minds of all classes among all nations.

The close relationship, if not actual identity, between tuberculosis in men and animals, and the many ways by which the disease is conveyed from one to another, not only of the same species, but from one species to another, have all been carefully studied, experimented on, and the facts published by successive scientists, beginning with M. Viseur, M. Villimin and Prof. Chauveau in France, Gerlach and Bollinger in Germany and several others, over thirty years ago and up to the present day, when its importance calls forth the combined wisdom and social and political influence throughout the civilized world. In July, 1890, a Royal Commission was appointed by our late Gracious Majesty "to inquire and report what is the effect if any of food derived from tuberculous animals on human health, and if prejudicial, what are the circumstances and conditions with regard to the tuberculosis in the animals which produce that effect upon man." Recently an International Congress against tuberculosis was held at Berlin. The deliberations of the VIIth International Veterinary Congress held two years ago at Baden Baden (which I had the privilege of attending), were largely taken up with this subject. During the past year various congresses were held throughout the United States, notably the Des Moines, Iowa, Tuber-

culosis Convention. The British Congress on Tuberculosis, which was initiated by His Gracious Majesty King Edward and at which he had intended to preside, is called to meet on July 22nd. Nearly every country in the civilized world has instituted scientific inquiry, published reports and bulletins on the subject, and in some, much useful legislation has been enacted and large sums of money voted to combat and arrest the spread of this plague of man and beast.

Canada, therefore, is to be congratulated on not being behind other countries in this matter, and the condition of Canada in relation to this disease is such as to require active co-operation. Therefore, the present meeting is most opportune, and much lasting good must follow the distribution among the people of the views enunciated here to-day.

Those of us who are familiar with Canada from ocean to ocean know that, of the whole vast British Empire, there is no large area as suitable for stock raising in all its branches; whether we consider the rich arable and pasture lands of our older provinces, or the great plains of the west and foothill country of the Rocky Mountains, we have a pastoral heritage the world little dreams of—in extent, soil, nutritive quality of the grasses, abundance and purity of the waters, and climate favorable for profitable production of animals and their economic products.

A rough estimate of the numbers and values of the live stock, which is approximative only, will show how valuable this branch of Canadian industry is even now.

Cattle, say 4,500,000, value	$90,000,000
Horses, say 1,500,000	60,000,000
Sheep, say 2,500,000	10,000,000
Swine, say 2,000,000	8,000,000
	$168,000,000

The following figures taken from the Minister of Agriculture's report, will show the value of some Canadian Farm Products of the three classes most susceptible to tuberculosis and exported during 1900:

Cattle	$ 9,080,776
Cheese	19,856,324
Butter	5,122,156
Pork, Bacon and Hams	12,833,034
Eggs	1,457,902

To these must be added, milk, hides, hoof, horns, poultry, etc., etc.

If our live stock and their products assume such large proportions, and their exportation forms such an important item of our foreign trade now, what may they not reach in the future when, by the rising tide of

immigration which has now set in, the great fertile and grazing regions of which I have spoken are brought under cultivation and made to yield of their abundance ?

Such figures will aid us in forming some slight estimate of the great responsibility which rests on the shoulders of those charged by the people to guard and protect them from losses by disease, whether imported or occurring in the country. Such, gentlemen, is the value of our livestock, the health and lives of which are menaced by those who would seek to do away with the only reliable safe-guard against the admission by our quarantines of animals suffering from the preventable disease, viz: testing by tuberculin.

We consider that there is no other large cattle-producing country in which the percentage of tuberculous cattle is so small, and further, that there has been no such marked success anywhere else in getting rid of this disease by methods which have been comparatively inexpensive to the Government or have caused so little inconvenience to those cattle owners who have followed the only wise course, viz: to voluntarily endeavour to get rid of the scourge from their herds.

The plan followed by the Department of Agriculture in Canada is as follows:—When an owner wishes to have his herd tested, he fills up a form furnished him in which he agrees to submit his entire herd to the test and to carry out the quarantine necessary in the case of any animals reacting. The professional service, material and travelling expenses are paid by the Government. The success of this plan will be seen by the rapidly reducing percentage shown during the past three years.

	Number tested.	Number reacted.
1897-8	6,516	412
1898-9	16,882	451
1899-0	17,785	358

When we consider that these figures represent voluntary applications by owners who suspect the existence of disease in their herds, and that the percentage is so small, we are justified in concluding that no such record of health, so far as this disease is concerned, is known elsewhere, and that the continuance of our methods for a few years longer must result in the eradication of this disease from our herds.

In discussing this subject recently with Professor Nocard, the great French scientist, who shares with Bang the reputation of being one of the greatest living authorities on tuberculosis, on my stating that it existed in Canada but as compared to other countries to a very limited extent, and on my asking if he thought that I was too sanguine in believing that if the Government would back me with sufficient money, I could in five years eradicate the disease from Canada, he very em-

phatically said : "Certainly not ; I have no doubt whatever that you can do so. I am certain that in eight years I could with similar assistance rid France of it completely." He highly approved of our idea of first educating the people and of our method of dealing with it in Canada which I explained to him, and he said: "I am sure you will succeed."

In a letter received from Professor Leonard Pearson, Dean of the Faculty of Veterinary Medicine, University of Pennsylvania, a few days ago, he says: "In the *Farming World* published in Toronto I have noticed some comments on the use of tuberculin, and especially a report of a meeting of stock breeders held recently in which the test was discussed and disapproved of. It was unfortunate that the stock breeders of Canada should take such an attitude on this question because it appears to be clear that there is but little tuberculosis among Canadian cattle, and this little could readily be extinguished if the stock breeders would but realize the importance of getting rid of it."

THE TUBERCULIN TEST.

It would be superfluous before such a meeting as this to reiterate in your hearing what the whole medical world well knows, viz: that tuberculin which is used for testing cattle (Koch's) is incapable of producing tuberculosis even in the most susceptible animal. We might as reasonably expect to grow barley from injecting whiskey into the ground. Those who object to its use on such ground do so from ignorance of facts.

I would refer those desirous of following up the subject to the *Farmers' Bulletin*, issued by the Department of Agriculture, and to the Departmental Reports for the past and two preceding years.

I will simply say here that the experience of the Cattle Quarantine Officers of the Department of Agriculture warrant us in stating that tuberculin properly used is an almost absolutely reliable test of the existence of tuberculosis in cattle.

Nocard claims that it is absolute, and that tubercle can always be found if a thorough search is made post-mortem. Ostertag, of Berlin, the great German pathologist, is almost as firm a believer in its reliability. Bang is also, but admits a percentage of failures. Dr. Salmon, Dr. Pearson, Dr. Theobold Smith, Prof. James Law, and other United States authorities, have all found by experience that it is reliable in from 95 to 98 per cent.

The following extracts from published opinions by acknowledged authorities may be interesting.

Prof. Nocard, Paris, says :—"We have in tuberculin a *certain* means of making the diagnosis of tuberculosis even when the lesions are quite

recent and very limited." "Everyone admits the exactitude and marvellous precision of the diagnostic indications produced by tuberculin."

Prof. Bang, Copenhagen, says: "To combat the tuberculosis of cattle, clear and well presented information upon the nature of tuberculosis, its modes of infection, and the importance of tuberculin, ought to be spread among the people of the country and of the towns."

Dr. Rudovosky, Brünn, says:—"Considering the extension of bovine tuberculosis and the entirety of the causes which establish its co-relation with human tuberculosis, it is necessary that most effective official measures be taken. It seems that the application of measures for eradication of bovine tuberculosis can be successful only if each case of disease is recognized with certainty, which can only be done by tuberculinization.

To popularize the use of tuberculin, lectures should be delivered and publications issued to acquaint rural populations with the injuries to agriculture arising from the presence of the disease, and to point out the possibility of its eradication with tuberculin and the great results obtained by it."

He further advises that tuberculin ought to be applied by Veterinary surgeons only, and all expenses in relation of disinfection of stables, should be charged to the State.

"Obligation for all owners to comply with the measures necessary, especially those regarding tuberculinization; obligation for breeding societies to have all the stock of their members tested with tuberculin."

Dr. Stubbe, Brussels, says:—

"Slaughter by order of the authorities.

(a) Of all animals clinically affected by tuberculosis.

(b) Of all animals clinically suspected of being affected by tuberculosis, and those having reacted to tuberculin test.

Equitable indemnity to owners.

Advice to be given to the owners to have the animals, which have been in contact with these, subjected to the tuberculin test.

To encourage them to unite to thus make the operation free, and to grant special indemnities when animals that have been tuberculinated and have reacted are slaughtered.

The use of tuberculin ought to be regulated."

The following are the resolutions of the VIIth International Congress of Veterinary Surgeons held at Baden Baden, Germany, from the 7th to 12th August, 1899.

"(1) The prevention of tuberculosis in cattle is urgently needed.

(2) The extinction of bovine tuberculosis on the part of the owners (voluntary extinction) is practicable and should be universally aimed

at. It demands the slaughter of dangerous tuberculous beasts as soon as possible, as well as careful protection of calves and healthy animals from infection.

The voluntary extinction of bovine tuberculosis should be encouraged by the State, through the dissemination of correct views, respecting the character of tuberculosis, respecting the modes of infection and the importance of tuberculin inoculations, and be supported by State grants. The best means hitherto known for the prevention of tuberculosis among domestic animals is tuberculin.

Tuberculin should only be supplied under State control; in any case it should be given to veterinary surgeons alone.

A State prevention of bovine tuberculosis is thoroughly to be recommended. If it is applied with a certain caution, it can be carried out and will hinder the further increase of the disease and will gradually stop it.

The prevention requires, (a) The obligation of the veterinary surgeon to give the legal notice of any case of proved tuberculosis in the exercise of his practice. (b) The quickest possible slaughter of dangerously tuberculosed animals, particularly those with diseased udders, tuberculosis of the uterus and of the intestines, as well as pulmonary tuberculosis, compensation being granted by the State."

I will conclude these quotations from high scientific authorities by extracting two paragraphs from a bulletin published and distributed under the authority of the Ontario Department of Agriculture in July, 1897, of which the Hon. John Dryden was, as he is now, minister. These opinions, based as they are on long experience as a breeder, and as Minister of Agriculture, should receive full consideration. He says:

"Now that we have found out that in tuberculin we have an admirable means of recognizing tuberculosis, and its application is not attended with any particular danger, the question remains as to how best to use it against tuberculosis.

"First, every herd in the country should be inoculated in a way that will be described, and every cattle owner should see to it that his herd is tested, as in this way only can we expect to be freed from the losses which are constantly taking place on account of this disease, and thus help to put a stop to one source of tuberculosis in man."

"Another point where great care should be exercised is in the purchase of bulls or breeding animals. After your herd is clear of disease you can readily infect the whole herd again by bringing in an animal suffering from tuberculosis.

So one should not purchase an animal without first submitting it to the tuberculin test and proving it free from tuberculosis, or else demand

a certificate that such animal has been so tested recently and found free from disease."

WHY ALL IMPORTED CATTLE SHOULD BE TESTED.

No one would be bold enough at the present day to doubt the wisdom of the Canadian Parliament in including tuberculosis in the list of contagious diseases—under the Animals Contagious Diseases Act, as was done on my suggestion in 1886.

Its contagiousness, among cattle, and its intercommunicability between man and animals, are now well understood; therefore, as quarantines are established at our sea ports expressly for preventing contagious disease being imported, it is the duty of officers in charge of such quarantines, to employ every means known to them to discover contagious disease, and prevent its introduction into the country. As tuberculosis can only be discovered by clinical examination in but a very small percentage of cases, but can be discovered by tuberculinization in the most occult cases, it is clearly his duty to employ this means of diagnosis.

When we are aware that this disease exists to an alarming extent in the well-bred herds of Britain, 50 per cent. have been said to be affected; and while we know that tuberculin, honestly used, will not lie, but that its diagnostic value can be nullified or rendered untrustworthy by repeated injections of it, at least until several months have elapsed; we see a further reason why the testing should be done in the Quarantines in Canada.

Dishonest practices are known to have been resorted to, high-priced animals and even herds have been so tampered with in importation to the Argentine Republic, leading to law suits, and culminating in the loss to British breeders of the best market they ever had, or are ever likely to have again. No certificates of testing done in Britain are now accepted by Argentine breeders.

Similar experiences have led the United States Government to prohibit entry of cattle from Britain, without their being tested in their own quarantines, or if imported via Canada, by our Quarantine officers. Unfortunately, with a view to meet the wishes of a few importers during the past two seasons, a compromise was arranged and certificates of specially selected veterinarians were ordered to be accepted in Canada, on which imported cattle are permitted to pass into the country without being tested in the quarantines, the results being most disappointing, as will be seen by referring to the quarantine reports for the past three years.

Several of our importers of undoubted integrity have had foisted on to their agents cattle as free from disease, and certificates and charts of

testing were furnished, yet, on being tested in Canada, it has been found that they were tuberculous.

I have reason to believe, however, that there are men acting as agents for others who are quite willing to speculate in tuberculous cattle, and who make the Canadian quarantines the door through which their doubtful speculations are conducted.

The position is this: tuberculous cattle cannot be admitted to the Argentine Republic, nor to the United States, they can be admitted under present arrangements to Canada. They can therefore be bought cheaply in Britain—they can be sold by auction in Canada or in the United States, so long as they would be admitted through Canada without being tested, netting large profits to the importer, but insuring the future ruin of those who purchased them by infecting their home herds.

The request of these men to do away with testing in quarantine, is as reasonable as it would be for several men to buy up at a cheap price quantities of British beer found to be poisonous from arsenic, and to insist that the Government should instruct their customs and health officers to accept the word of the importers that it was all right; and on no account to test for arsenic, no matter what their suspicions or information may be,—such a procedure were it possible, would create a public outcry at once—yet the only harm likely to follow would be the temporary injury of the business of our home brewers, and the poisoning of a number of people. Not so simple would be the results of the unrestricted importations of tuberculous animals, unfair and injurious competition would injure our home breeders, or those of them who possess healthy herds; but worse still, the disease which now exists to a limited extent only, would be spread far and near among the herds to which they were introduced. Other animals would be attacked, and new foci of infection started, invalids and aged people would be infected. I must not, however, be supposed to insinuate that no cattle free from tuberculosis can be bought in Britain. On the contrary, I believe that if buyers or their agents would take even ordinary business precautions, and buy direct from the breeders, they can do so under every reasonable guarantee of freedom from disease; nor must I be understood to infer that importations are not required, no one knows the necessity for fresh blood in our herds better than I do, having been breeding extensively for twenty years; I would urge that the Government be requested to encourage importations in every reasonable way, even to giving premiums for cattle imported and sold in Canada.

What is wanted is to prevent importation of cattle for speculative purposes, which are known or suspected beforehand to be diseased, as well as importations of diseased animals by careless importers or their agents.

In conclusion I beg to submit the following recommendations:—

I. That the Conference believes in the reliability of tuberculin as a diagnostic agent; also, that it is capable of abuse and may be made the means of dishonest practices; we therefore recommend that its use be made illegal and punishable by fine and imprisonment by anyone not duly authorized to use it.

That its administration be restricted to qualified Veterinary Surgeons.

II. That all neat cattle imported into Canada from Europe shall be tested officially before being allowed to leave quarantine.

III. That the Government be urged to encourage importations of pure-bred stock for breeding purposes in every reasonable way, even to the giving of premiums for such stock imported and sold to remain in Canada.

Gentlemen, this fight against tuberculosis will be a hard one, but it is a worthy one; and we may rest assured that where the health and lives of our families and the vast commercial interests at stake are in the one side of the balance, and want of knowledge and selfish interests in the other, the final outcome cannot be doubtful.

Resolution No. IV.

Whereas, this Conference in the foregoing resolutions has given expression to opinions as to the need for concerted action on the part of the Governments and the people of Canada for arresting the ravages of tuberculosis; and whereas, in order to carry out such action, organization is essential:—

Resolved, that it is the voice of this Conference that a "Dominion Association for the Prevention of Tuberculosis" should be established, and to that end this Conference does approve of the action taken by the members of the Canadian Medical Association and others, at a meeting held in Ottawa, in September, 1900, in forming an Association with provisional officers; and does hereby agree to lend its hearty support to that Association and its objects as then formulated.

SYMPTOMS OF RENAL TUBERCULOSIS.*

BY

H. M. KINGHORN, B.A., M.D., Saranac Lake.

My interest in tuberculosis of the kidney was aroused some years ago when, as house physician to the Montreal General Hospital, I had a case under observation. It was one of considerable interest. The patient, A. J. M., male, aged 35 years, a photographer, was admitted to the hospital in July, 1895, complaining of "passing blood in the urine." The trouble began three months previous to admission. The passage of blood was first noticed in the evening, when the urine was seen to be dark coloured and cloudy. He consulted a physician and took medicine for three weeks, and during that time the dark colour disappeared. It then again became cloudy, so he took to bed and remained there five days. When he moved about or exercised the cloudiness got worse, but when he kept quiet it would disappear. From the time of appearance of his trouble until the date of his entrance to the hospital he had not at any time had pain while urinating; the feet had never been swollen; he had not had headaches; he had always had a good appetite; and the amount of urine had been good. Though careful enquiry was made, no point of importance was obtained that could account for the disease.

Up to the age of 21 he had worked on a farm as he had not enjoyed good health, having been troubled with hæmorrhoids. For the last twelve years he had been a photographer. When a child he had measles, whooping-cough, and chicken pox. At 25 years of age he had "remitting fever," which lasted four weeks and which was accompanied by chills, high fever and sweats. The nature of this he could not state, but he was sure it was not malaria. At 28 years of age he had grip. There was no veneral history and his habits were good. Though four of his family died in infancy there was no tuberculous history so far as he could state.

On admission to the hospital, his appearance was that of a tall, well-nourished man of 35 years, whose chief complaint was that of occasional passing of blood in the urine. He also stated that he had a sore feeling in both sides of the back across the lumbar region while lying on his back. This soreness had been present for a long time and had got worse after blood first appeared in the urine. The lymphatic glands were not enlarged. Examination of the cardio-vascular system gave

* Read before the Saranac Lake Medical Society.

evidence of a normal heart without any enlargement and a pulse of 70, regular, good volume, no increase of tension but a slightly thickened artery.

The respiratory and digestive systems were normal.

On July 5th, the day of admission, the urine was as follows:—Twenty ounces for 12 hours (the quantities for the following days being 39, 38 and 57 ounces for 24 hours), cloudy, alkaline reaction immediately after being passed, specific gravity 1020, no sugar, and (after filtering) no albumin, normal in colour. A specimen he had kept from the previous day was smoky and contained blood cells in large numbers, a few pus cells, no casts, and very few pavement epithelial cells.

On July 8th, I had him pass water in my presence, and for several days watched every act of urination. There was no frequency of micturition and no pain either before or after urinating. The stream was large, came away at once, was uninterrupted, was not darker at the beginning or end of micturition, but seemed to be uniformly coloured during the passage. Two small clots of blood were passed. He said that after coitus there was no increase in the amount of blood, and that this act seemed to have no influence on the passage of blood. He had no symptoms of stricture, and this, together with the facts mentioned above, made me conclude that the lesion was not in the urethra.

From the fact that the blood was uniformly mixed with the urine and was not increased in amount at the end of the act of micturition, and that there were no strong symptoms of bladder disease (inasmuch as there were very few epithelial cells), I concluded that trouble was situated either in the ureters or in the kidneys.

Repeated examination of the urine showed either a trace of albumin or none whatever, and the absence of casts and usually an acid reaction. I therefore excluded the kidney structure proper, and concluded that the hæmorrhage was probably from the pelves of the kidneys. The sore feeling over the lower part of the back, which he had complained of since the onset of his trouble, and the tenderness which was elicited over the region of the kidneys, pointed to these organs as the seat of the trouble. The probable cause of the hæmorrhage was thus limited to a renal calculus or a tuberculous pyelitis.

To get a good specimen for examination, I washed the glans penis with a solution of carbolic acid, and drew off the urine with a clean catheter, and in the sediment found large numbers of tubercle bacilli. I may say that I did not observe any tuberculous deposits in the testicles, vesiculæ seminales or prostate.

Renal tuberculous can be latent, and in many cases the most marked and advanced disease of the kidney, and even of the pelvis and ureter,

may exist for a long time with total absence of symptoms pointing to a lesion in the urinary tract; and the disease may destroy one kidney and block its ureter without being recognized. In such cases, the only indications of ill health may be anæmia and loss of weight, and only late in the history of the case may the attention of the physician be directed to the tuberculous disease. No renal affection gives more varied symptoms; no one is more fertile in errors in diagnosis.

The disease sometimes presents itself as follows:—A young man has been troubled for some time with a frequent desire to urinate; the urine is clear but very abundant; he then has soreness over the kidney; the urine is cloudy and sometimes contains small clots of blood; sometimes abundant hæmaturia appears. Later on, the patient becomes pale, loses his appetite, loses weight, and has a slight evening elevation of temperature. The lower extremities become œdematous. On examining the kidney region, we find that the kidney is increased in size and a little tender. The symptoms increase slowly. Death may occur by pulmonary tuberculosis or by uræmia.

General Symptoms.—General symptoms are often lacking at the onset of the trouble. Later on, they are characterized by a loss of well being, to which no definite cause can be assigned; and when one questions the patient, one finds that there is loss of appetite, some loss in weight, perhaps some night sweats, and, above all, an elevation of temperature, which may be either remittent or intermittent, and having an evening exacerbation. Tuffier, however, lays stress upon the fact that renal tuberculosis may be latent, and may reveal itself only by the general symptoms of loss of well-being and of cachexia. Frequently there may then appear profuse diarrhœa which is difficult to check, and signs of a generalized tuberculosis may ensue. As a rule, the development of the disease comes on insidiously, and general symptoms will not permit one to make sure of the diagnosis.

An evening elevation of temperature which persists for a considerable time is not rare during the course of renal tuberculosis. When there does not exist an increase in the volume of the kidney which can be made out by abdominal palpation or lumbar percussion, it is very probable that the fever is due to generalized tuberculosis.

A careful examination of the urine is of the utmost importance, and the patient's urinary history should be inquired into. Israel asserts that the urine of primary renal tuberculosis without bladder disease, has nothing pathognomonic except the presence of tubercle bacilli, and that these are found but seldom in those cases free from disease of the bladder. Polyuria has already been mentioned as a frequent and early symptom and will be mentioned more fully later. In the early stage of

the disease, the urine is clear but often albuminous, and these symptoms, *viz.*, clearness, increase in quantity, and presence of albumin, and sometimes the presence of tubercle bacilli, characterize it in the early stages. Casts are rare; the presence of red blood cells is of great importance. Leucocytes are always present.

Polyuria.—Polyuria is one of the first indications of a tuberculous lesion in the kidney and is probably due to hyperæmia produced by tubercle bacilli in the organs. It is not apt to be noted unless when associated with albuminuria, but when we are aware of its presence, we should consider it as a symptom of considerable value, especially when it occurs early. Sometimes there occurs a marked increase in the amount of urine which coincides with an increase of pain in the bladder. A Robin has called this a "prætuberculous polyuria."

Frequency of Micturition.—Probably the symptom which makes the patient consult a physician more frequently than any other is "frequency of micturition." It is a prominent symptom from the earliest to the final stages. It may be present to a marked degree without the bladder being diseased. It is often falsely considered as due to bladder disease, in spite of the fact that the urine is perfectly clear. It is important to remember that it is usually equally marked at night, and this fact should increase the suspicion that it is due to tuberculous disease. Tuffier says that it is a constant symptom of renal tuberculosis, and that in doubtful cases it permits one to differentiate this affection from a neoplasm of the kidney, or from a simple pyelonephritis. I shall speak later of the occurrence of pain with this symptom.

Pyuria.—Among the earliest symptoms to direct the physician's attention to the disease are "the brisk emission of a considerable quantity of pus," what the French call *vomique rénale;* or else an abundant hæmorrhage, which is spontaneous and repeated; less often the appearance of a tumour. In all cases of pyuria with renal symptoms in men, a careful examination should be made of the genital organs and prostate for tuberculous disease. If the symptoms are associated with rapid loss of weight, anæmia, and an elevated evening temperature, one should regard tuberculous disease as a probable cause.

When the disease is well established pus in the urine is almost constant, and when it has advanced to such a degree that the kidney has become a "surgical kidney," the urine has the following characteristics: It is uniformly cloudy and remains so after being passed. It is usually acid. When left standing in a specimen glass, its appearance is very suggestive,—the bottom layer consists of a greenish, pea-soup-like substance, through which are blood stained striæ. The rest of the urine is not clear but is more or less opaque. According to Guyon, the pyuria

presents three great characteristics. It is spontaneous, constant, and lasting. In some cases it is intermittent. When a patient has reached this condition he is in a satisfactory state only when the urine contains pus. When the urine becomes clear, signs of retention of the products in the renal pouch ensue; he has violent lumbar pains, loss of appetite, malaise and elevated temperature.

Hæmaturia.—The initial hæmaturia is of great diagnostic significance and is frequently one of the first symptoms of renal tuberculosis, and is due to the renal congestion. Of sixteen cases of primary tuberculosis of the kidney, Israel had four cases in which hæmaturia was the first symptom. As a rule, it is small in amount and consists mostly of small clots, which are deposited at the bottom of the vessel. Later on there are mucopurulent clots streaked with blood. Very exceptionally, bloody urinations occur and produce large clots. Blood is intimately mixed with the urine. This hæmaturia resembles that which occurs with neoplasms of the bladder; it is spontaneous, appears and disappears without cause, and cannot be distinguished from hæmaturia caused by tuberculosis of the bladder. Its duration is usually short. Sometimes it will last for five or six days, and in one exceptional case reported by Israel, it lasted for four weeks.

As a symptom, hæmaturia may long antedate the development of a gross renal lesion. We frequently meet with cases of profuse and frequent hæmoptyses long before physical signs of pulmonary phthisis develop. So in renal tuberculosis, hæmaturia may be present as a premonitory symptom of the disease. While we regard hæmoptysis as a valuable and often a most fortunate danger signal of pulmonary phthisis, even when unaccompanied by physical signs, hæmaturia has not been so regarded, although in some instances it carried with it the same warning. In both pulmonary and renal tuberculosis the hæmorrhages are probably analagous in the early stages, and due to the congested condition of the organs.

When there is a mixed infection the urine becomes cloudy and is almost uniformly cloudy when passed. The presence or absence of albumin probably depends upon whether or not the tuberculous lesion communicates with the urinary tract. If the disease is situated in the kidney substance, the inflammatory products are shut off and do not mix with the excretion, and the kidney substance, not implicated in the disease, continues to excrete healthy urine. But if there is a communication between the diseased area and the urinary tract, the serum, blood corpuscles, and leucocytes escape and give the urine an albuminous reaction.

Bacilli.—The criterion of the nature of the disease is the presence of

the tubercle bacillus in the urine, but the bacillus is not constant and may be absent in the first stages of the disease. Tuffier has not been able to detect the bacillus more easily when there is blood in the urine, contrary to that which occurs in hæmoptysis—a condition always favourable to detect it. One should examine the sediment of purulent urine to find them.

In *La Semaine Médicale*, March 30, 1896, page 150, there is an interesting discussion on the importance of the differential diagnosis between the tubercle bacillus and the smegma bacillus, in affections of the urinary passages. Von Leyden had three cases where he was unable to expose this error, and in one of these cases Koch himself could not give a positive opinion. I have at present under observation a woman with chronic Brights', whose urine contains bacilli which are morphologically identical to tubercle bacilli. Though they keep the fuchsin stain when decolourized with Gabbot's blue, they lose the fuchsin stain to acid alcohol. To make sure that they were smegma and not tubercle bacilli, I injected the sediment into a guinea pig. About five weeks later I killed the pig, but found it free from tuberculosis. Trudeau and Senator assert that in affections of the urinary passages the inoculation into a guinea pig, alone admits of a positive diagnosis. An excellent control method, which E. R. Baldwin suggests, is to take some tubercle bacilli from a culture, to stain these on one slide and the sediment which contains the suspected bacilli on another, then to use the acid alcohol on both. The tubercle bacilli do not lose the stain while the others, if smegma bacilli, do lose it. The difficulties of detecting the bacilli make the inoculation method the one of choice to diagnose the renal tuberculosis.

Counterstaining by acid alcohol is considered by many to decolourize smegma bacilli and not to decolourize tubercle bacilli. The method we employ in Dr. Trudeau's laboratory is as follows:—The urinary sediment is stained in the ordinary way with carbol-fuchsin, washed, and dried; then treated with 25 per cent. nitric acid until decolourized; then washed and dried; then treated for two minutes with 95 per cent. alcohol, and where there still exists a doubt, the presence of the bacilli is then further corroborated by injecting the sediment into a guinea pig. When large quantities of mucus are present, it is advisable to render the urine slightly alkaline before centrifugating it.

Tumour.—Tumour in the situation of the kidney is not an early symptom but occurs in the later stages. The physician's examination should include the whole genito-urinary tract and should include the ureters. If the kidney is only slightly increased in volume and is not displaced, bimanual palpation will not reveal it. When it is considerably increased

in volume, palpation reveals an enlarged kidney without any special characteristics to permit one to consider it as tuberculous. In these doubtful cases, one should add to the examination ureteral catheterization. This gives information, not only about the permeability of the ureter, but permits of judging whether there is disease in both kidneys. It allows one to collect the urine from each kidney separately, and to inoculate the product of each of them into a guinea pig. Renal swelling, sufficiently large to be made out by palpation, may be produced by extensive disease of the cortex alone, and, when this is so, the swelling is found to be uniform in size, when examined from time to time. If, however, the renal swelling is due to obstruction of the urinary tract, giving rise to hydronephrosis or pyonephrosis, from time to time great variations in the size of the kidney may be observed.

Pain.—Pain in tuberculosis of the kidney depends upon whether the pelvis and ureters are involved. When the kidney parenchyma alone is involved, the patient seldom complains of severe pain, but usually experiences only a dull, dragging sensation in the loin. It is often a distressing symptom in cases of ascending tuberculous disease or in advanced cases of primary renal tuberculosis where the pelvis, ureters and bladder are also affected. In character it is usually a slight ache, or slight dulness, or heaviness in the lumbar region. It is unilateral, or predominates on one side. It is extremely variable and capricious in its characteristics. As a rule, movement does not influence it, but in some cases the acts of walking or moving quickly will produce pain severe enough to simulate stone in the kidney. The dorsal position in bed quiets it. It is sometimes aggravated after meals, or after a blow, or by cold, but chiefly before the monthly periods. It may radiate towards the bladder, groin, and thigh of the affected side, the rectum, or the opposite kidney. Guyon has described painful symptoms occurring in the healthy kidney and rectum, that he calls reno-renal and recto-renal reflexes. The healthy kidney, without any pathological change, is the seat of sharp pains similar to those felt in the diseased organ. The removal of the diseased kidney causes the reflex pain to disappear in the healthy organ. When pain accompanies frequency of micturition, it begins to be severe about the middle of the flow, increases towards the end, and then subsides almost immediately the bladder is emptied. Pain and frequency are as marked during the night as during the day, and blood, when present, is uniformly mixed with the urine. Irritation of the bladder, as evidenced by frequent and painful micturition, is a frequent and very characteristic symptom of tuberculous disease of the kidney, and may be present without the bladder being diseased. This irritation of the bladder is frequently the first

symptom which attracts the patient's attention and makes him consult a physician. Painful micturition is usually most marked in the ascending lesions, but is met with from the earliest to the latest stages. It may disappear, or become much abated for a considerable time. Sometimes the pain in the kidney, though permanent, may assume an intermittent form, as evidenced by acute exacerbations. When these exacerbations occur, the patient may have symptoms of renal retention. That is to say, the acute pain will coincide with an increase in the volume of the kidney and the passage of clear urine; then the urine is changed again and becomes cloudy and abundant; and at the same time the pain disappears, and the kidney returns to its normal condition. This painful condition may, finally, be followed by crises having all the characteristics, the intensity, and the termination, of renal colic produced by stone. Renal colic of this nature is probably produced by the kidney throwing into the ureter purulent lumps or phosphatic concretions. Pain of this variety has been met with, however, when there was no obliteration of the ureteral canal, as was proved by subsequent operation, and is probably due to renal congestion. When due to this cause, exacerbations of the most intense pain will occur chiefly with menstruation, without there being any renal distention.

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NEURITIS FROM GUN-SHOT INJURY.*

BY

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Since the introduction of small-bore high-velocity bullets in warfare a few instances of paralysis of nerves without actual division of the cords have been recorded.

In an interesting note in the *British Medical Journal* for Feb. 17th, 1900, p. 406, Clinton T. Dent records an instance of paralysis of the musculo-spiral nerve in which the symptoms seemed to point to division of the nerve cord. Operation was deferred and in the course of a week there was a material improvement. In another case the ulnar nerve was actually cut down on and exposed and found intact although the symptoms had led to the belief that it was divided.

Mr. Dent points out that ecchymosis may occur at some distance from the track of a bullet, and also that distant structures such as fascia may be violently stretched by such injuries. In either of these methods it is readily conceivable that a nerve trunk might be damaged without being actually pierced or divided.

The following case is an example of complete paralysis of the extensors and paresis of the flexors of the forearm resulting from a bullet wound of the arm, and in which the electrical reactions and subsequent recovery of motor power indicate that the nerves though damaged were not divided.

J. H., æt. 25, was admitted to the Montreal General Hospital on Dec. 14th, 1900, for paralysis of the left forearm. As the nerve was believed to be divided he was placed in a surgical ward.

On Feb. 27th, 1900, at the battle of Paardeberg, he was struck in the left arm by a Mauser bullet at a range of 400 yeards. The bullet entered the outer side of the arm about the middle of the humerus, passed in front of the bone and escaping a little higher up the arm grazed the chest wall, the patient at the time of the injury lying down in the firing posture. The immediate sensation was as if he had received a heavy blow. His arm was jerked up convulsively above his head and then fell helpless by his side. After the injury there was immediate wrist drop, the fingers were tightly clenched in the palm, and on reaching the base hospital three days later the hand was forcibly opened, the fingers extended and the limb placed on a splint. Rapid wasting

* Read before the Montreal Medico-Chirurgical Society, Jan. 11. 1901.

of the muscles of the forearm set in and particularly of the thenar eminence, and since the injury the loss of power has continued. There has been some loss of sensation in the fingers but none of the severe pain which so frequently accompanies gunshot injuries of nerves.

Status Præsens.—The patient is a healthy looking young man. Two small round scars, one cm. in diameter, both rather tender, on the inner and outer side of the arm, indicate the track of the bullet.

There is complete wrist drop and absolute paralysis of the extensor muscles on the back of the forearm, but the power of the triceps is retained and there is slight movement in the supinator longus. The fingers are extended and in a line with the hand whilst the thumb is adducted and lies between the first and second fingers.

The flexors are weak but there is some slight power of movement in the palmaris longus, the flexor carpi radialis and carpi ulnaris. The muscles of the forearm are firm and measure 24 cm. on the left and 27 cm. on the right side. The outer muscles of the thenar eminence are flattened and markedly atrophied. The skin of the fingers is thin and the finger nails clubbed. There is loss of tactile sense over the whole of the index finger, over the peripheral joints of the second and third fingers, and over a small patch on the ball of the thumb.

Electrical reactions. The extensors show a slightly diminished irritability to both the faradic and galvanic currents. The flexors of the wrist react to both currents quite as well as on the healthy side.

The small atrophied muscles of the thenar eminence do not respond to a strong faradic current, and with galvanism they show the slow muscle contraction characteristic of nerve degeneration, K.C.C. being greater than A.C.C. Rapid improvement set in after the use of electricity, and in a few days there was some movement of the extensors. On leaving the hospital on Jan. 14th, the patient could extend the hand beyond the straight line with the forearm.

The diagnosis was neuritis of the musculo-spiral and median nerves.

At first sight the supposition was that the musculo-spiral nerve had been divided by the bullet. The history of immediate wrist drop suggested such an injury, and absolute paralysis of the extensors ten months after the injury is also in favour of such a view. The value of electricity as a diagnostic agent is well illustrated, the retention of nerve irritability below the supposed site of division of the nerve at once proving that it was intact.

The prognosis, judging from the prompt response of the affected muscles to both currents, is favourable, and complete recovery of the flexors and extensors may be anticipated. The small muscles of the thumb, however, showing the reaction of degeneration ten months after

the injury, will probably be permanently paralysed. The initial wrist drop was undoubtedly due to irritation of the median, as shown in the clenched hand. It seems remarkable that the muscles of the thenar eminence supplied by the median should suffer so much more severely than the other muscles supplied by this nerve.

ACUTE APPENDICITIS COMPLICATING HERNIA IN A VERY YOUNG INFANT.*

BY

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J. A. M., a twin male, aged seven weeks, was brought to the Montreal General Hospital on September 29, 1900, with a right-sided scrotal hernia. The following history was obtained. On September 27th, he began to vomit, and although he was nursing from the breast, he could retain nothing on his stomach. This vomiting, with absolute constipation, continued until his admission to the hospital on the third day. On the morning of his admission, the mother noticed for the first time that the scrotum was much swollen and inflamed, and called in a physician, who diagnosed a strangulated hernia and made several ineffectual attempts to reduce it. He then advised that the child be taken to the hospital for treatment.

Examination showed the right side of the scrotum much swollen and œdematous, and containing a sausage-shaped mass extending up to the external abdominal ring. The child had a temperature of 102° F., a weak, rapid pulse, was very much distressed, and vomited constantly. The abdomen was very tense.

Under chloroform anæsthesia, we attempted to reduce the hernial mass but failed completely, fortunately for the child, as the sequel will show. After giving an unfavourable prognosis, permission was given to operate, and an incision was at once made through the scrotal tissues down on the incarcerated bowel. Much to my surprise, on opening the tunica vaginalis, free pus was found, and my first thought was that the bowel had become gangrenous and was perforated. On prolonging the incision up to, but not through, the external abdominal ring, we saw that the strangulated bowel consisted of the cæcum and vermiform appendix, and that the latter had become gangrenous and had perforated, presenting exactly the picture we are so familiar with in the abdomen. The appendix was ligated off in the usual way and the strangulated cæcum and the surrounding tunica vaginalis were then

* Read before the Montreal Medico-Chirurgical Society, February 9, 1901.

disinfected by swabbing with pure carbolic acid neutralized in a few minutes or so with absolute alcohol. I next directed my attention to the point of strangulation—the external abdominal ring—and carefully slit up the diverging fibres of the external oblique muscle, until I had sufficiently enlarged the ring to permit of pulling down the bowel through the opening. Having thus satisfied myself that the bowel above the ring was not gangrenous, and that the circulation in the part previously stragulated was being well restored, I returned the whole of the strangulated mass, including, of course, the stumps of the appendix, into the abdominal cavity, repaired the ring, and closed the funicular process with buried catgut sutures. The skin incision was then closed by a continuous silk suture, except a small opening at the upper part, through which I inserted a narrow gauze drain. The suture line was then covered by iodoform pigment, and a layer of sterilized absorbent cotton held in place by a spica bandage completed the dressings.

As the mother was nursing both children, it was necessary that she should take the child home, which she at once did—the child having been but two hours in the hospital. She was told to give it half a teaspoonful of castor oil with four drops of paregoric that night, and to return with it next day. Next morning, she reported that the bowels had moved well during the night and the child had nursed and slept well. It looked well and did not complain. The stitches were removed on the sixth day, and the child (though brought back for dressings rather irregularly, owing to the illness of his mate) practically made an uninterrupted recovery. To-day, as you can see, there is absolutely no sign of hernia, as the union of the deep parts is firm, and the general health is very good.

Points of interest in the case are :—

(1) Age of the child, seven weeks. I can find no record of an appendectomy having been done on such a young infant. Needless to say, the diagnosis of acute appendicitis was not made before operation in this case.

(2) Did the hernia exist unnoticed previous to the present attack; and did the strangulation cause the gangrene of the appendix? Or did acute gangrenous appendicitis occur in a prolapsed appendix (hernia of), and thus cause the strangulation? I incline to the latter hypothesis.

(3) The good result was undoubtedly due to the fact that the strangulation at the ring walled off the abscess from the peritoneal cavity, thus enabling us to treat the appendix as an extra-peritoneal structure. We were also fortunate in being able to thoroughly cleanse the parts before doing the herniotomy proper, and returning them into the

abdomen. It was a case where the end justified the means, and where the peculiar circumstances of the case justified the course followed.

[For the clinical notes of this case I am indebted to my House-Surgeon, Dr. L. M. Murray.]

MEDULLARY NARCOSIS.

BY

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There has been a great deal of literature in circulation lately upon the subject of medullary narcosis, the question of its usefulness having been discussed in many lengthy papers and most practitioners at the present time regarding it with severe criticism. It is not my intention to put forward any arguments either for or against medullary narcosis, but simply to report one of my cases in which this mode of producing analgesia has been employed.

Case.—B. K., aged 39 years, female, German, in good general condition, but suffering from pain referred to the pelvis. On examination, ovaries and tubes were found to be in a healthy condition but the cervix was eroded and congested. Amputation of the cervix, owing to the extent of the involvement, was indicated.

The patient was taken to the operating room and placed upon the table at 2.40 p.m., and the hips and shoulders were raised by means of pillows. The patient lying upon her side, was then directed to arch her back as in a stooping position. I think that in this position one can gain most easy access to the spinal canal. The needle is introduced within a finger's breadth of the spine of the vertebra on the lower side that is the side of the convexity.

At 3.44 p.m., I injected fifteen minums of two per cent. solution of cocaine. The cocaine used had been previously boiled for two minutes for sterilization. In four minutes there was a slight numbness felt in the legs and abdomen, and two minutes later (six minutes after the injection) there was complete analgesia in legs and abdomen.

The patient was then placed in the lithotomy position and, having already been prepared for operation, the uterus was curetted; and then I amputated the cervix by Emmet's operation. There was absolutely no pain whatever during the operation, though the patient could "feel something," as she expressed it. That there was even no discomfort to the patient was well shown in the fact that she fell fast asleep on the table; nor did she waken until she was placed upon the carriage to be taken to the ward. She then felt slightly nauseated. Complete anal-

gesia of these parts lasted for one hour and thirty-five minutes, that is, until 4.20 p.m., when the prick of a needle gave pain at first in the upper abdominal quadrant, then in the feet and legs, and finally throughout. At 4.35 p.m., all traces of analgesia had disappeared.

At 1 a.m. the following day the temperature rose to 101° F., respiration, 22; pulse, 92; but at 5 p.m. had dropped to 100.4°, respiration 26, pulse 88. Since that time, temperature, pulse, and respiration have been running along with but slight deviation from the normal.

After the operation she complained of headache, nausea, and vomiting. The nausea and vomiting continued for eight hours after the operation. The headache lasted for three days, and was most severe during the first and second day, though the pain was considerably lessened by sodium bromide used in twenty grain doses.

Patient has progressed favourably, and to-day, fifteen days after the operation, she was discharged, having had all her previous symptoms relieved and without any ill effects whatever from the lumbar puncture performed.

RETROSPECT
OF
CURRENT LITERATURE.

Medicine.

UNDER THE CHARGE OF JAMES STEWART.

Rheumatic Fever.

ARTHUR NEWSHOLME, M.D., F.R.C.P., LOND. "The Epidemiology of Rheumatic Fever."

F. J. POYNTON, M.D., F.R.C.P., LOND. "The Pathology of Rheumatism."

ST. CLAIR THOMSON, M.D., F.R.C.P., LOND. "Rheumatic Fever in Relation to the Throat."

G. A. GIBSON, M.D. "The Effects of Rheumatic Fever on the Heart."

GEORGE F. STILL, M.A., M.D. "Rheumatism in Childhood."

ARTHUR P. LUFF, M.D. "The Treatment of Rheumatic Fever." *The Practitioner, London, January, 1901.*

The January number of the London *Practitioner* is termed the Rheumatic Fever Number and contains important articles by the above named writers, who present the most recent views upon the various points discussed.

It appears that Norway is the only country in which medical practitioners are required to report periodically the number of cases of rheumatic fever and certain other diseases, and from the study of statistics thereby offered, one finds grounds from "the great excesses of prevalence" in certain years of rheumatic fever, for the application of the name *epidemic*, which, according to the duration, may be classified as "explosive," or "protracted," the former terminating in less than three years, the latter lasting longer. From this, in part, the author argues that rheumatic fever is of infective character.

The Influence of Climatic Conditions.—Under this division of his subject, the author wishes to refute the prevailing teaching concerning the relation of dampness of air and soil to excessive rheumatism. A heavy annual rainfall is associated with a low amount of rheumatic fever, and a small rainfall with an excessive amount of rheumatic fever, and two or three such years are more potent than one.

The Influence of Soil Conditions.—A dry soil with low ground water favours rheumatic fever. The level of the ground water serves rather as an index of other conditions,—as heat and cold, relative dryness and wetness,—favourable to the development of rheumatic fever.

The author says, in closing his paper, that it seems most reasonable to regard rheumatic fever as essentially a soil disease due to a saprophytic soil organism, which is "drowned out" in wet weather, multiplies rapidly in dry years, and is transferred to the human recipient by unknown means.

He suggests dust convection and, in the light of the recently acquired knowledge concerning malaria, he says it is not perhaps too far fetched to surmise that inoculation by the contagion may be caused by domestic vermin or by the common house fly.

Pathology.—Dr. Poynton says rheumatic fever, to be studied truly, must be studied as a disease of childhood. Endocarditis, pericarditis, and nodule formation, are lesions bearing striking resemblances. Each of them shows a destructive and a reparative process. Endocarditis and pericarditis show cell degeneration and necrosis, nodule formation is represented by the fibrino-cellular exudates and, later, by fibrosis. Suppuration is not found in either.

The various theories of the pathology of rheumatism are reviewed.

Cullen's view (1784). The articular processes in acute rheumatism were attributed to the direct influence of cold, by which the joints, owing to their covering, became inflamed, and there followed a general fever.

J. K. Mitchell (1831) suggested that rheumatic fever was the result of certain lesions located in the spinal cord. Chill or exposure were cutaneous sensory fibre-irritants, which created a central disturbance in the spinal cord or medulla and, reflexly, the organs and tissues involved in rheumatism were affected.

The *toxæmic theory* implies that the cause of rheumatic fever is some poison circulating in the blood—whether the result of a perverted metabolism directly (the chemical theory), or of a perverted metabolism upon the nervous system, and reflexly upon the joints and tissues involved (the neuro-chemical theory), or a toxæmia, the result of an infection from without—by some organism (the infectious theory).

The chemical theory supported from the lactic acid point of view, by many good men, such as Fuller, Senator, Sir B. W. Richardson and Sir Walter Foster, and from the uric acid standpoint, by Latham and Haig, yet remains unproven. For, on the one hand, lactic acid has not been conclusively demonstrated in excess in the tissues and excretions, nor are chemical pathologists agreed upon the fact that uric acid is in excess in the blood tissue or sweat secretion of rheumatic fever.

The infectious theory has gained ground during the past ten years. Mantle, in 1887, advanced the view with fear and trembling. His views were strongly supported by many eminent men of the British Medical Association. Klebs, in 1875, demonstrated a micro-organism in the cardiac valves of a patient dead from rheumatic fever, which he claimed differed from that observed in malignant endocarditis. In 1887, the investigations of Popoff, and his experiments upon rabbits, showed the possibility of inducing pericarditis, endocarditis and arthritis by the injection of cultures from the blood of a rheumatic fever patient. The clinical evidence in favour of the infectious theory is very strong, and one cannot do better than Poynton has done when he quotes the words of Cheadle, written in 1895,—"The occasional epidemic prevalence, the variability of type, the incidence upon the young, the occurrence of tonsillitis, of endocarditis, of pleurisy, of pneumonia, of erythematous eruptions, the rapid anæmia, the tendency to capillary hæmorrhages and albuminuria, the implication of the joints, the relapses, the occasional supervention of hyperpyrexia, the nervous disturbances, the specific power of salicylic acid, are all suggestive of an infectious disease." Under four headings Dr. Poynton groups the views on the nature of the infection in rheumatic fever.

(1) That there is no specific micro-organism, but the disease is a form of septicæmia of a staphylococcal or streptococcal origin.

(2) That the infection is a mixed one.

(3) That the micro-organism is a specific bacillus.

(4) That the micro-organism is a specific diplococcus.

The great objection to the view set forth under the first heading, is the clinical history of rheumatic fever. The writer claims that, though virulent enough to kill, the virulence is not associated with suppuration; and this point is of such importance in the present state of our knowledge, as to establish rheumatic fever as a specific disease. The view of the mixed infection rests upon the fact that cocci have been demonstrated in rheumatic fever, and yet have not proved specific. That the micro-organism is a specific anaërobic bacillus has been claimed by Acholm, Thiroloix and Ballencourt. The evidence in favour of the fourth view, that the micro-organism is a specific micrococcus, finds forcible support from Dana, Triboulet and Apert, Westphal, Wasserman, Malkoff, Paine and Poynton. These two last named have isolated in twelve successive cases of rheumatic fever a diplococcus which produced on intravenous inoculation into rabbits the clinical appearances of rheumatic fever. These micro-organisms have been isolated from the blood, urine and tonsils of patients suffering from rheumatic fever, and also from the pericardial exudate and cardiac ulcers, after death. They

have produced, on intravenous inoculation in rabbits, polyarthritis, valvulitis, pericarditis, pleurisy, pneumonia, chorea, and nodules. The lesions were non-suppurative. They also produced coagulation necrosis in the kidneys and liver. He describes in further detail the characteristics of this micro-organism, and remarks, at the end, that the most important fact deduced from this investigation is that *this diplococcus which we have isolated is a cause of rheumatic fever.*

Dr. Poynton would explain many of the clinical features by his knowledge of the life history of this organism, The tonsillitis, the tonsilar site of infection,—for this diplococcus has there been found. They are rapidly destroyed by the human tissues,—hence the fleeting character of the polyarthritis. The connective tissues suffer greatly in rheumatic fever,—here the diplococci are most readily found. Pericarditis, the most dreaded complication of rheumatic fever, affords in its exudation the most virulent cultures of the organism. An ingenious theory in explanation of relapses, is offered. In healing lesions, and in cultures on a suitable medium, a solitary coccal form, persistent and larger than the individual element of the diplococcus, has been found. The writer suggests that this may persist in the living tissues for some considerable time, and recover its virulence if the tissue vitality becomes lowered by any untoward influences.

Since 1762, when John Ball made an allusion to the rheumatic origin of angina, has the attention of the profession been directed to the relationship between tonsillitis and other affections of the throat and rheumatism. This may be twofold, or one or other of two possible relations, —the tonsil considered as the point of entry of the rheumatic germ, or as a tissue frequently involved in those with a rheumatic diathesis. There seems to be an increasingly strong support given to the view that the tonsil is the site of entrance of the rheumatic infection. Abraham, Buss, Poynton and Payne, maintain this view.

An adverse criticism, however, is found of this view in a *thése de Paris* by Emile Poignt, who claims that the articular complications, which so frequently follow tonsillitis, should not be confounded with essential acute rheumatism. The tendency to suppuration of the joints involved, and the uselessness of salicylates, favour this view. Then the view that tonsillitis and pharyngitis are rheumatic manifestations finds supporters in Haig Brown, A. E. Garrod, and W. B. Cheadle; while Y. B. Hope adversely critizices this teaching. A decision is impossible.

The crico-arytenoid joint may be the site of a rheumatic affection, inducing a condition of ankylosis simulating a paralysis of the recurrent laryngeal nerve,

Heart.—While the relation of tonsillitis remains a debatable question,

the endocardial and pericardial involvements have long since ceased to be such. It is highly probable that all cases of acute and subacute cardiac diseases are of microbic origin, and all may therefore be termed infective; and the admirable work of Poynton and Payne goes a long way to prove the microbic origin of rheumatic heart affections, hitherto not so regarded.

With a view of understanding more clearly how the micro-organisms attack the heart, Dr. Gibson states that, so far as the pericardium and myocardium are concerned, no difficulty presents, since these are vascular. The endocardium of the venous valves is freely supplied with blood-vessels, while that of the valves of the great arterial orifices has none. Hence, an aortic valvulitis, for example, must arise from the blood passing over the surface of the valve. Bearing upon this subject, the important phagocytic functions of these cells, as pointed out by Washbourne, is to be remembered. Thus it is reasoned that, while exercising their protective functions in destroying bacteria, these cells suffer, and pericarditis or endocarditis results. It appears that in endocarditis the invasion is from the blood in the heart cavities. Retrogressive changes occur in the cells invaded by bacteria. Upon the affected surfaces, the fibrin corpuscles and platelets are deposited, and a vegetation results. The subendothelial layer is also involved, and the adjacent blood-vessels, etc., with leucocytic exudation.

Dr. Gibson would have us learn from this deposition of material upon the injured surface, Nature's lesson for rest, believing, as he does, that newly-formed material deposited upon the pericardial and endocardial surfaces, is protective. Rest is of highest importance. The drug treatment of rheumatism, while not conclusively in favour of the salicylate series, yet "there appears to be good ground for the belief that these drugs considerably diminish the cardiac effects of rheumatism." Absorbents are to be used when the pulse and temperature have become normal and the general symptoms have disappeared, and the writer prefers iodide of sodium in 10 to 15 grain doses, three times daily, for some weeks. The subsequent anæmia, if present, may be corrected by the use of iodide of iron, while digitalis or strophanthus should not be used. Counter irritation is recommended as an important measure in the treatment of endocarditis, as well as myocarditis and pericarditis. It is induced by the application of small fly blisters every night, or every second night, over the præcordia and their neighbourhood.

Childhood.—In reckoning the frequency of this disease in childhood, one must include those cases of chorea, in which there has been either a concurrent or previous articular rheumatism. Figures are given in support of this view. Rheumatism rarely occurs under two years of

age. The vagueness of the pains of rheumatism in childhood is dwelt upon—often referred to the muscles, sometimes to the neck, sometimes to the epigastrium, or to the axilla, or to the back of the knee. Dr. Barlow has drawn attention to the frequency of affection of the hip joint in rheumatism of childhood. It may be mono-articular for days. As regards the frequency of cardiac complications in childhood, upwards of 50 per cent. of 170 cases showed signs of permanent cardiac damage.

Dr. Still directs the reader's attention to the dilatation of the heart as a frequent result in rheumatism (Lee). Wasting in childhood is often attributable to rheumatic affection. Subcutaneous nodules are common, being found in about 28 per cent. of the severer cases. Their presence is often diagnostic, and prognostic as well, being of grave import, as they are often associated with severe endocarditis and pericarditis.

"Cerebral rheumatism" is exceedingly rare in children. Dr. Still reports one case, that of a patient, aged 6½ years, whose temperature went up to 108.4° F.

Of gastric catarrh, the "nervous" temperament, night terrors, somnambulism, habit spasm, lienteric diarrhœa and red hair, much remains to be learned; yet this author regards these as among the many indications leading to the detection of rheumatism in childhood.

The Treatment of Rheumatic Fever.—A review of the last half century of the treatment of rheumatic fever is followed by a discussion of the treatment with the salicylic compounds and the treatment with the alkalis. There are three views as to the mode of action of the salicylic compounds. (1) That they act as antiseptics and destroy the alleged micro-organism of the disease. (2) That they exert an antitoxic action. (3) That they act as nerve sedatives.

In the treatment with the salicylates, the author points out the necessity of a careful watchfulness upon the urine, and upon the heart's action. He admits that under this treatment, relapses in rheumatism *may* become more frequent, but if they do, it is probably explained by an improper use of the drug, cutting short its administration too early, and to the patient being allowed to get up and move about too soon.

It appears that the most untoward complications in rheumatism, as endocarditis and pericarditis, occur less frequently under the conjoint use of a salicylate with an alkali. Hence, Dr. Luff recommends "20 grains of sodium salicylate and 30 grains of of potassium bicarbonate to be given every two hours until the pain is relieved, and the patient is under the influence of the salicylates." Then the quantity may be given every fours until the temperature is normal. Then 15 grains of

the salicylate and 20 grains of the bicarbonate, are to be given every four hours until the joint symptoms have disappeared, and then three or four times a day until a fortnight has elapsed from the complete disappearance of the joint symptoms. It is better to use the sodium salt of the natural salicylic acid. In the event of the salicylates not being tolerated, salicin in equal quantity should be substituted for it. Sodium salicylate should not be given to children. In such cases, salicin and alkalis are to be used. The treatment of the joints consists of small blisters about the joints, or of iodine followed by poultices, or of the salicylate of methyl applied on lint and closely covered over and sealed down with gutta-percha tissue to insure absorption, which usually takes place in twelve hours, after which the dressing is removed. It is important to see to it that the salicylates are gradually left off, and that a return to solid diet is not made too soon. Relapses are accounted for by the failure to recognize these changes.

Six weeks at least is the period enjoined in all cases of rheumatic fever without cardiac involvement, and at least eight weeks, after the signs of cardiac involvement, in other cases.

In attempting to prevent cardiac involvement, the principal means at our disposal are salicyl compounds, complete prolonged rest, freedom from pain, a diet of fluids, mainly milk, free diuresis and daily bowel evacuations. One may use Caton's counter irritation method,—the employment of numerous small blisters applied between the clavicle and the nipple over the first, second, third and fourth intercostal spaces on either side. This measure may be supplemented by 8 or 10 grains of sodium or potassium iodide three or four times daily.

In cardiac failure due to myocarditis, which is probably more frequently a result of an acute rheumatism than is generally believed, digitatis often fails to exert its good effects. Strychinine and ammonium carbonate are of special value.

It is shown that hyperpyrexia is much less frequent since the use of salicylates than before. When it does occur, however, it requires the promptest and most energetic treatment, in the application of cold. The salicylates have no influence upon the hyperpyrexia, once it has been established.

As preventive measures in those subject to rheumatic attacks, a short occasional course of sodium salicylate, a diet largely vegetarian, careful attention to the general health, and an abundant supply of pure air in the dwelling house, are important.

W. F. Hamilton.

Canadian Medical Literature.

UNDER THE CHARGE OF KENNETH CAMERON.

[The editors will be glad to receive any reprints, monographs, etc., by Canadian writers, on medical or allied subjects (including Canadian work published in other countries) for notice in this department of the JOURNAL. Such reprints should preferably be addressed to Dr. Kenneth Cameron, 903 Dorchester street, Montreal.]

The Canadian Practitioner and Review.

October, 1900.

1. Some Experiences in the War in South Africa. G. Sterling Ryerson.
2. Erythema Bullosum. Graham Chambers.
3. Infant Feeding. Dr. McKee.
4. The Operative Treatment of Procidentia Uteri in Elderly Women. A. Lapthorn Smith.

November, 1900.

5. Opening Address, Medical Faculty, University of Toronto. Bertram Spencer.
6. Two Cases of Fatal Lead Poisoning. Allen Baynes.
7. Specific vs. Symptomatic Treatment of Typhoid Fever, with Remarks on Feeding. L. Bentley.

December, 1900.

8. Primary Sarcoma of the Right Nasal Fossa, with Acute Frontal Sinusitis and Orbital Cellulitis. Perry G. Goldsmith.
9. Smallpox—Notes on Eighty-Nine Cases. W. F. Bryans.
10. Tubercular Disease of the Tubes, with Acute Peritoneal Infection. Herbert A. Bruce.

2. CHAMBERS defines erythema bullosum as that form of erythema multiforme which exhibits in the highest degree the pathological change which is present in the latter disease. He looks upon the hyperæmic spot, papule, tubercle, œdematous nodule, vesicle, and bulla as lesions representing different degrees of the same pathological process. All the forms of lesions are inflammatory in origin, but there is always present, in addition, more or less angio-neurotic œdema. In the great majority of cases the diagnosis can readily be made out. The multiformity of the lesions, and in particular the presence of one of the iris forms, as well as the distribution of the eruption, forms a picture difficult to mistake for any other disease. Four well marked cases are described.

6. Cases of lead poisoning in children are rare, the diagnosis not at all simple, and the treatment unsatisfactory. BAYNES relates the clinical histories of two fatal cases of children, aged two and five years, and describes a symptom hitherto unknown to him, viz., a very prominent dark blue circle about the anus, more marked from the fact that the children were of fair complexion, otherwise, there was nothing but a carefully taken clinical history and the fact that until the day of the first child's death, no previous history having been obtained, the case resembling so closely that of basilar meningitis, it was treated as such.

7. BENTLEY says that the death rate is too low in typhoid fever to be safe in making conclusive deductions on the evidence of one physician's practice. The fact that a practitioner has had no deaths or cases of hæmorrhage counts for nothing. With our present knowledge of typhoid fever it may be safely said that the profession is pretty thoroughly agreed that the treatment should be entirely symptomatic. There are but few diseases that present such a variety of conditions as typhoid fever, and this fact should of itself indicate a variety of methods of treatment, and that each case should be treated on its own merits. Mild cases, in which no complications are met with, do well with little or no medicine. When medicine is given, it should be given only for a definite purpose, and such remedies prescribed as are known to give definite results.

8. GOLDSMITH gives the history of a case of primary sarcoma of the right nasal fossa, and which presented several instructive features. There was entire absence of any nasal symptoms though the appearance of the man suggested mouth breathing. There was absence of pain, except referred to the frontal region, also absence of discharge and of odour. The apparently gradual distension to the frontal sinus, and the acute exacerbation of the trouble followed the preliminary twisting of five polypi. The predominence of the ocular symptoms, prominence of the eye, diplopia, displacement downwards and outwards of the eyeball and frontal pain. The apparent immunity of the maxillary sinus from infection, and orbital cellulitis due to infection from either the frontal sinus or through the orbital plate of the ethmoid bone.

9. BRYANS gives the statistics of the cases of small-pox that have recently occurred in Ontario. Of the eight-nine cases, thirty-four occurred in vaccinated persons and fifty-five in unvaccinated persons. In many of the vaccinated, twenty or thirty years had elapsed since vaccination. In all the vaccinated persons the disease was of a mild type, with one exception. This person had a very small cicatrix, and had been vaccinated about thirty years previous to the time of exposure. Of the seventy-seven persons vaccinated known to be exposed, thirty

contracted the disease. Of the forty-nine unvaccinated persons exposed, forty contracted the disease.

10. BRUCE reports a most typical case of primary tubercular disease of the Fallopian tubes, with secondary peritoneal infection of a very acute type.

The Canadian Journal of Medicine and Surgery.

October, 1900.

1. Tuberculous Lesions from a Clinical Point of View. Edmond Owen.
2. The President's Address. R. W. Powell.
3. Address in Gynæcology. William Gardner.

November, 1900.

4. Recent Pathological Studies of the Blood. L. H. Warner.
5. Physical Training—Its Range of Usefulness in Therapeutics. B. E. McKenzie.
6. The Physicians Vaster Empire. John Hunter.
7. Intussusception in Children, with Illustrative Cases. A. Primrose.

December, 1900.

8. On Prolapse of the Stomach—Gastroptosis. Alexander McPhedran.
9. Mental Sanitation. R. W. Smith.
10. A Case of Congenital Ptosis, with Associated Movements of the Affected Eyelid, during the Action of Certain Muscles. James MacCallum.
11. A Brief Consideration of Gangrene and Mortification, Traumatic and Pathological, of the Extremities. Thomas H. Manley.

5. MCKENZIE gives the results of his observations on the correcting of deformities by exercises. The affections benefited by physical training, in the order in which good results have been observed, are hysteria, roto-lateral curvature, flat foot, round shouldders, pigeon-breast, flat chest, anæmia, paretic weakness, chorea, and imbecility. He considers that special physical training is necessary for the young by the conditions of modern life. The work should be made special and scientific having for its object the development and strengthening of every organ and faculty of the patient. Force from without the patient is largely employed in such cases as cannot of their own volition correct the deformity.

8. MCPHEDRAN contributed an instructive paper on prolapse of the stomach. This condition rarely occurs alone, but with it is associated

prolapse of some or all of the abdominal organs. In the majority of the cases that he has examined there has also been some degree of dilatation, although not sufficient in many of them to seriously affect the functions of the stomach. The abdomen may be prominent, flat, or even retracted. In the former class the prominence may be confined to the lower part, while above the umbilicus is depressed; in such the stomach is very low and is partly the cause of the undue fulness of the lower zone. If the stomach is not atonic, but possesses fair motive power, so as to be able to discharge its contents into the intestine in due time, so as to be empty before each succeeding meal, no symptoms need necessarily arise from the low position of the stomach, as its motor function is not interfered with. In some cases a nervous disturbance exists in addition to and apart from the gastric affection. Where the dilatation of the stomach is marked the size of the organ may be reduced by infolding the anterior wall by raising the greater curvature and suturing it to the anterior wall near the lesser curvature—gastroplication. The causation of gastric and other visceral prolapses is a complex one. The chief methods of treatment are diet, medicines, and abdominal massage and gymnastics. Foreign travel with due regard to avoidance of fatigue, mental and physical, is often of great benefit. Rest without pleasure is seldom of much benefit.

9. Bruce Smith points out that while preventive medicine is invading every other field, but comparatively few and feeble efforts have been made in psychiatry. The public should be enlightened with regard to the nature of insanity in order that they may properly estimate the influence of heredity as the most potent factor in the causation of the disease. They should be taught, as a preventive measure, that as the development of the morbid disposition is most insidious and is seldom recognized until late, the consideration of the family and the personal history of the individual should demand and receive early and careful attention. There should be a full recognition of the variability of individuals for bearing burdens and enduring strains, for many cases of insanity are justly chargeable to the imposition of burdens beyond the capabilities of the individual. Public sentiment must be enlightened before any restrictive measures can be beneficially enacted, for if the conditions under which many cases of insanity originate were properly understood, many attacks of the disease might be avoided. The study of child-character and the careful consideration of the variability in the development of mental phenomena during the period of growth in the child are all important, and the steps necessary to secure the adoption of these and all precautionary measures must first be taken by the family physician, who in the future must be prepared to advise, caution

and restrain, in exercising his influence in the prevention of mental disease.

10. MacCallum describes a remarkable case of a young woman afflicted with congenital ptosis, in whom the lid affected was opened involuntarily with every act of mastication, with every opening of the mouth.

Dominion Medical Monthly.

October, 1900.

1. President's Address, Executive Health Officers of Ontario. T. V. Hutchinson.
2. The Principles of Food Preservation. A. MacGill.

November, 1900.

3. President's Address, American Public Health Association. Peter H. Bryce.
4. Treatment of Appendicitis. J. Wishart.
5. Vitality of Typhoid, Diphtheria and Cholera Bacteria in Milk. W. T. Connell.

December, 1900.

6. Some Results of Correspondence with Medical Examiners. T. Millman.

5. Connell considers that his investigations prove that at a temperature averaging 70 to 72° F., the diphtheria bacillus, while it remains alive and virulent during the period of time in which the milk is commonly used, yet does not tend to multiply in such milk and is soon killed out in competition with the common milk saprophytes. The typhoid bacillus, once it obtains entry to milk, will readily and rapidly multiply therein and remain alive for long periods. This point assumes importance in relation to infection of one day's supply from the previous days by the use of improperly cleansed utensils. The spirillum of cholera rapidly multiplies in sterilized milk at the room temperature and remains alive in it for long periods. In infection of milk with this microbe and with the lactic acid germ the cholera vibrio multiplies for from six to eighteen hours, when its multiplication is checked by the lactic acid germ, which soon obtains the ascendancy and gradually kills out the cholera vibrios. The danger from cholera infected milk is, therefore, in the earlier stages of the infection, which is the period when milk is used.

The Canada Lancet.

October, 1900.

1. A Case of Colloid Goitre, Involving the Middle Lobe of the Thyroid Gland, Associated with Asthmatic Attacks and Resulting in Sudden Death. H. B. Anderson.
2. The Alkaloids. Llewellyn B. Ashton.
3. A Chinese Hospital, a Visit to the "Tung Wah" or Native Chinese Hospital in Honk Kong. Colin A. Campbell.
4. A Case of Broncho-Pneumonia Treated by Oxygen Inhalation. J. T. Fotheringham and A. F. Stanton.

November, 1900.

5. Some Remarks on Forceps Delivery with Special Reference to Occipito-Posterior Cases. L. Bentley.
6. A Case of Hydatid Disease. Edmund H. Weir.
7. The Borderland of Mental Disease from a Practitioner's Standpoint. Ernest Hall.

1. ANDERSON relates the history of a case of goitre of the middle lobe of the thyroid gland, which resulted fatally. He states that judging from the literature of the subject, goitre limited to the thyroid isthmus is very rare, in fact he has been unable to find any case recorded. Involvement of the isthmus with coincident involvement of either one or both lateral lobes is common enough. The occurrence of periodical attacks of the most urgent dyspnœa, constituting the so-called 'thyroid asthma' is by no means of rare occurrence. It occurs earlier and is more urgent and dangerous to life when the enlargement is limited to, or affects chiefly the middle lobe. Retrosternal goitres, small though they be, are particularly liable to produce the most distressing dyspnœa. The dyspnœa is usually explained as being due to the direct pressure of the goitrous tumour on the trachea or to irritation of the recurrent laryngeal nerve. The periodical character of the attacks is due to the tendency to rapid increase in size of the gland at certain times from vascular changes. It would appear that these cases of thyroid dyspnœa are not infrequently mistaken for true asthma, especially where the neck is short and fat, and the goitre is smooth and regular in outline, or where it involves the isthmus, or is retrosternal. Death may result during these attacks of dyspnœa and often suddenly, the possibility of which is important from a medico-legal point of view.

6. WEIR relates the results of an autopsy on a man aged 54, a native of Canada and a clerk by trade, who had never travelled outside of Ontario, his life having been spent mainly in Toronto and in the neighbouring country towns. He had been admitted to the Toronto General Hos-

pital for symptoms of chronic parenchymatous nephritis and had died with marked indications of pulmonary œdema. There were two ulcers in the duodenum, and a cyst upon the anterior surface of the middle of the right lobe of the liver about 2″ by ¾″ in size, which had microscopically the characteristic structure of the cyst wall as described by Leuckart, and scolices and hooklets were found in large numbers in the fluid which presented all the characteristics, both chemical and physical, of hydatid fluid.

Canada Medical Record.

October, 1900.

1. Syphilitic Gummata of the Spinal Cord Treated Successfully by Very Large Doses of Iodide of Potash. F. W. Campbell.
2. Procedure in Post-Mortem Medico-Legal Examinations. C. A. Hebbert.
3. Abstract of a Paper on the Operative Treatment of Complete Prolapse of the Uterus in Elderly Women. A. Lapthorn Smith.

December, 1900.

4. Odds and Ends in Ordinary Practice. A. D. Stevens.
5. Notes from the Clinic of Dr. F. W. Campbell.

The Maritime Medical News.

October, 1900.

1. Diseases of the Mastoid Process. G. H. Cox.
2. Septic Process in Eye Disease. G. R. Crawford.
3. Some Experiences in the Methods of Treating Hernia by Operation. F. J. Shepherd.
4. The Operative Treatment of Complete Prolapse of the Uterus in Elderly Women. A. Lapthorn Smith.
5. Cataract Operations. A. E. Kirkpatrick.

December, 1900.

6. Physicians, Surgeons and Specialists. F. W. Goodwin.
7. The Radical Treatment of Chronic Otorrhœa and Aural Polypus. J. H. Morrison.
8. Notes on a Case of Myxœdema. H. H. MacKay.

La Clinique.

Octobre 1900.

1. Du Traitement de la Rétention Incomplete Aiguë chez le Prostatique. Adelstan de Montagny.

La Revue Medicale.

Octobre 3 1900.

1. Sur Le Traitement de l'Ophthalmie Purulente des Nouveaux-Nés. Jéhin-Prume.

10, 17, 24 octobre 1900.

Revue des Journaux.

31 octobre 1900.

2. Note sur le Traitement de la Phlegmasia Alba Dolens par une Solution Picriquée. M. T. Brennan.
3. Note sur le Traitement de la Folliculite de l'Aisselle par le Gazoline. M. T. Brennan.

7, 14, 21 novembre 1900.

4. La Cure de Repose chez les Phtisiques. C. T. Samuel Bernheim.

28 novembre 1900.

Coq-à-l'âne Médicaux.

5, 12 décembre 1900.

5. De la Désinfection. J. I. E. Laberge.

19 décembre 1900.

6. La Panniculite et la Callilite Pelvienne Extra-Génitale ou Juxta-Osseuse. M. T. Brennan.

26 décembre 1900.

7. Evidemment Préalable et Hémisection Médiane Antêro-Postérieure dans un Cas de Fibrome Intra-Ligamentaire Enclave et d'Utéras Fibromateux. M. T. Brennan.

L'Union Medicale du Canada.

Novembre 1900.

1. Grossesse et Tuberculose. Samuel Bernheim.
2. Polypes Utérins. Eugène St-Jacques.
3. Pathogénie des Fibro-Myômes Utérus. A. Marien.
4. Albuminurie Pendant le Grossesse. E.-A. René de Cotret.
5. Sirrhose Atrophique du Foie. E. P. Benoit.

Le Bulletin Medicale de Quebec.

Octobre 1900.

XIIIe Congrès International de Médicine.

Novembre 1900.

2. Des Brûlures. S. Geo. Paquin.

Decembre 1900.

2. La Défense Pratique Contre la Tuberculose. Samuel Bernheim.

Reviews and Notices of Books.

ORTHOPEDIC SURGERY AND OTHER MEDICAL PAPERS.—By HENRY JACOB BIGELOW. Boston, Little, Brown & Co., 1900.

THE MECHANISM OF DISLOCATION.—Litholapaxy; or Rapid Lithotrity with Evacuation. By HENRY JACOB BIGELOW. Boston, Little, Brown & Co., 1900.

These two volumes contain the principal papers publishers by Professor Bigelow. These papers possess great interest, giving to the reader as they do the thought and method of working and results achieved by a man who made a decided impression on his generation and led his profession a big step forward. Bigelow's work upon the hip joint, and on the treatment of vesical calculi is classical. He brought litholapaxy to its present state of perfection. Indeed, with the exception of Fowler's slight improvement in the lithotrite, the operation of litholapaxy is to-day as Bigelow left it. What greater evidence could be brought forward to demonstrate the thoroughness and scientific precision of his work? The volumes are very neatly gotten up and would prove ornamental and interesting volumes in any medical library.

G. E. A.

A PRACTICAL TREATISE ON GENITO-URINARY AND VENEREAL DISEASES AND SYPHILIS.—By ROBERT W. TAYLOR, A.M., M.D., Clinical Professor of Venereal Diseases at the College of Physicians and Surgeons (Columbia University), New York; Surgeon to Bellevue Hospital, and Consulting Surgeon to the City Hospital, New York. Second Edition. Lea Brothers & Co., New York and Philadelphia, 1900.

The first edition appeared in 1895. The advances made in five years are sufficient to fully justify the issue of a revised edition. The present volume is thoroughly revised. The chapter on the anatomy and physiology of the penis, urethra, bladder, and prostate, which appeared in the 1895 edition, has been omitted from the present; the author in the present volume addresses himself at once to "Gonorrhœa in the Male." This may be a wise change, and yet most men are the better for a brief review of the anatomy and physiology of the part about to be studied.

The book is most complete. In its dealing with both gonorrhœa and

syphilis it is most conservative and yet up to date. The illustrations are numerous and clear. It is well indexed, which is an important thing in these days. Altogether the book may be commended and confidently recommended. *G. E. A.*

A Dictionary of Medical Science. By Robley Dunglison, M.D., LL.D. Twenty-Second Edition with Appendix. Thoroughly Revised and Greatly enlarged by Richard J. Dunglison, A.M., M.D. Lea Brothers, Philadelphia and New York, 1900.

The appearance of the twenty-second edition of this standard work in the last year of the century gives us some idea of the progress medical science has made since the late author, Robley Dunglison, published the first attempt at medical lexiography, over seventy years ago. As a tribute to his memory the author's portrait prefaces the present edition.

Few have any idea of the rate at which new words are coined, and it seems almost impossible that, as the editor states, 65,000 new terms should have been added during the past decade. The twenty-first edition, issued seven years ago, contained 44,000 new words and to this again 15,000 are added in the present edition. Many of these new terms are connected with the increase of knowledge in such branches as bacteriology and synthetic chemistry, and many are related to therapeutics and materia medica owing to the recent discoveries of new drugs and combinations.

The work has so long held the position of the authoritative lexicon of the medical sciences, that it needs no words of praise from us. It covers all branches of medicine, including dentistry and veterinary science. The book makes an imperial octavo volume of 1,350 pages. Price, $7.00.

Lea's Series of Pocket Text-Books—Chemistry and Physics—A Manual for Students and Practitioners. By Walton Martin, Ph.B., M.D., and W. H. Rockwell, Jr., M.D. Series edited by Bern B. Gallaudet, M.D. Illustrated, 137 engravings. Lea Brothers & Co., Philadelphia and New York, 1900.

The authors of this book state in the preface, that although it would be impossible to present in a volume the size of this a complete treatise on chemistry and physics, yet, so far as a knowledge of these subjects is required by medical students, the manual contains all that is necessary. The authors have certainly made good use of their space, and given us a book compact, and at the same time containing all that is essential for both students and practitioners of medicine, and have presented rather dry facts in a most attractive manner.

The section on Organic Chemistry is written by Dr. Martin; that on

Inorganic Chemistry is based on Struther's chemistry. There has been no attempt made to give chemical compounds which are used also as drugs, more than usual importance on this account, the fact that they are made use of in this respect in medicine being merely alluded to under the heading "uses." The same can be said of the uses of electricity in the section on physics, which is written by Dr. Rockwell. The book is thus equally suitable as an elementary manual for all classes of students.

The index is most complete, a valuable feature to the general practitioner, whose knowledge of chemistry has been gained in his student days, and who often wishes for a book of reference in which he can look up chemicals by their commercial names.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS. By J. BERGEN OGDEN, M.D., Instructor in Chemistry, Harvard University Medical School, etc. Illustrated. Philadelphia, W. B. Saunders Company, 1900. Canadian Agents, J. A. Carveth & Co., Toronto. Price, $3.00.

The author states that he has "long felt the need of a treatise which takes up in detail the subject of urinary diagnosis and the application of information furnished by careful chemic and microscopic examination of the urine." Hence, he divides his work in two parts, the first of which describes chemical and microscopical methods in detail, and the second deals with the diagnosis of renal conditions from the character of the urine. In this latter there is introduced also a brief enumeration of the prominent symptoms of each disease, and a section describing the peculiarities of the urine in certain general diseases of the body.

In the first part, the directions for the chemical and physical tests are very explicit and include little practical points, the neglect of which often causes confusing and uncertain results to the inexperienced. One should have no difficulty in putting into practice the methods recommended. While in most cases several different tests are described, in some instances the author has not stated with which the most reliable results are to be obtained. Not so, however, with regard to the tests for albumin, which the author rates, by comparative experimental study, as (1) nitric acid, (2) heat, (3) potassium ferocyanide and acetic acid. No mention is made of the fact that in using the cold nitric acid test a few minutes often elapse before the albumin ring appears, in urines containing only a trace of albumin. The author's method of determining the amount of albumin present by the thickness of the ring formed with nitric acid, will hardly be found practicable to any but laboratory workers of long experience, and should not be taught to students.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS. By CHARLES W. PURDY, M.D., LL.D., Queen's University, Professor of Clinical Medicine at the Chicago Post-Graduate Medical School, etc. Fifth Revised and Enlarged Edition. Philadelphia, New York, Chicago. F. A. Davis Company, 1900. Price, $3.00.

It is not two years since we reviewed in these columns the fourth edition of Dr. Purdy's well known book, yet to the present edition there has been some new matter added and much of the text has been rewritten.

It is to Dr. Purdy that we are indebted for a rapid and, it is claimed, reliable method of quantitative analysis by the use of the centrifuge, the instrument best adapted for the purpose at the present time being the electrical one devised by Purdy himself. In our review of the fourth edition we referred to his method of estimating albumin in this manner, and he has added, in the present edition, methods and tables for chlorine and sulphuric and phosphoric acids as well.

A chapter, too, has been introduced on the use of the microscope in urinary analysis. This will be found most acceptable to students, who as a rule often fail to observe bodies, *e.g.*, hyaline casts, by using too much light, and even an Abbey condensor, in studying urinary sediments.

Of the changes made in the general description of methods, etc., it is impossible to draw attention in detail; they are all, however, in the way of simplifying and improving a book which has come into wide use among the medical men of this country.

A MANUAL OF SYPHILIS AND THE VENEREAL DISEASES. By JAMES NEVINS HYDE, A.M., M.D. and FRANK HUGH MONTGOMERY, M.D. Second Edition, Revised and Enlarged. Philadelphia, W. B. Saunders Company, 1900. Canadian Agents, J. A. Carveth & Co., Toronto. Price, $4.00.

The second edition of this treatise on syphilis and the venereal diseases has been rendered much more valuable as regards illustrations by the introduction of a considerable number of Mracek's plates depicting the cutaneous lesions of syphilis from the Hand-Atlas of Syphilis and Venereal Diseases. The book also has been to a large extent rewritten and the chapter on gonorrhœa has been brought up to present ideas as regards treatment. We note that the authors look upon gonorrhœa as a much more serious disease, when viewed from all standpoints, than syphilis. To this we are inclined to subscribe, and many of the constitutional effects of gonorrhœa would undoubtedly be avoided by careful treatment, were it not for the popular idea that "clap" is a trifling disease which can be treated over the counter of a drug store.

With regard to the stage at which syphilis ceases to furnish an infectious virus, the authors believe that "though the power to furnish a virus is gradually lost in every surviving subject of syphilis, it is safest to hold that any awakening of the morbid process at a late date may, however rarely, render such persons dangerous to the uninfected." The sole constant characteristics of every chancre they define as, (1) an incubative period preceding its appearance, (2) sclerosis of the base of the lesion varying widely in degree, and (3) simultaneous enlargement and induration of the nearest glands (anatomically) to the sore. The often misleading, though convenient, division of syphilis into primary, secondary and tertiary stages it is thought wiser to abandon, the graver forms of the disease being grave from the first, and often "developing the so-called 'tertiary' symptoms with a degree of rapidity as startling as it is portentious." The various clinical forms of the disease are conveniently grouped into four main divisions, roughly, benign and malignant, with or without relapsing or profound lesions.

The chapter on treatment is admirably written, mercury being chiefly valuable in the early lesions and iodides with or without mercury in the later manifestations. The authors consider that the preparations of mercury in the order of value, are the protoiodide, the bichloride, the biniodide, the tannate, blue pill, and the gray powder.

We have much pleasure in recommending the book as reliable and up to date in every particular.

A Treatise on Fractures and Dislocations. By Lewis A. Stimson, B.A., M.D., LL.D. (Yalen), Professor of Surgery in Cornell University Medical College, New York. Third Edition, Revised and Enlarged. Octavo, 842 pages, with 336 illustrations and 32 full-page plates. Philadelphia and New York: Lea Brothers and Company, 1900.

The second edition (which was practically a new book) of this work appeared in 1899, and was received with so much favour that it was exhausted within the year. In the present, third edition, many important changes and additions have been made, notably the statment of the advance in the knowledge of traumatic hæmatomyelia. The number of skiagrams adds greatly to its value and of these no less than thirteen illustrate the conditions seen in recent and old fractures at the lower end of the radius. The bibliographical references have been largely augmented, and the new illustrations and alterations in the text have increased its size by about twenty pages.

The work is a very excellent one, and as the teaching throughout is progressive but sound, is valuable for reference. *K. C.*

NURSING AND HYGIENE. By R. LAWTON ROBERTS, M.D. (Lond.), D.P.H. (Camb.), M.R.C.S., Eng. Third Edition. Pp. xxv. and 223. London, H. K. Lewis, 136 Gower Street, W.C., 1900.

This little volume, which covers fully the ground required in the advanced nursing course of the St. John Ambulance Association, is a companion volume to Ambulance Work by the same author, and will serve as a valuable guide not only to the nurse-in-training, but more especially to that large class of people who have neither the desire nor the intention to follow that calling, but who wish to acquire a good, every day knowledge of nursing and of the laws of health. The language is plain, terse, free from technical terms and very readable. In the appendix some valuable information is given concerning filters, tuberculous disease and how to arrest it, and the various methods of disinfection. *K. C.*

AN AMERICAN TEXT-BOOK OF PHYSIOLOGY. Second Edition, Revised. Volume II. Philadelphia and London, W. B. Saunders Company, 1901. Canadian Agents, J. A. Carveth & Co., Toronto.

This volume treats of the general physiology of muscle and nerve, the cerebral nervous system, the special senses, the physiology of muscular mechanisms, and reproduction. In each case the work is, speaking generally, well done; however, as the chief distinctly new matter in this second edition is to be found under the Central Nervous System, one naturally turns to the chapter on this subject with large expectations. These are scarcely realized. There is not that evenly balanced, well digested résume of this great subject that could be wished. There are omissions, both in text and illustrations, incompatible with the general character of a work of such pretensions, while matter has been introduced that can hardly be expected to interest the general student of physiology, as it does certain specialists such as the author himself. The treatment is at times rather narrow, and gives evidence of undue leaning towards the views of American investigators. Nevertheless the chapter, as a whole, is a distinct improvement on the original one, as is the book, and this volume, like the first one, will probably be generally acceptable. *W. M.*

Society Proceedings.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, January 11, 1901.

JAS. PERRIGO, M.D., PRESIDENT, IN THE CHAIR.

Traumatic Neuritis.

DR. F. G. FINLEY showed a man with a traumatic neuritis of the left arm. A full report will be found at page 199.

DR. F. J. SHEPHERD stated that from the history of the case, without having seen it, he had advised an operation, having been pretty sure from the description that there was division of the nerve. He related a case somewhat similar to this in which paralysis of the musculo-spiral had resulted after a fracture of the humerus in a child. On operating, the nerve was found intact, and since there had been considerable improvement in the paralysis. A possible explanation was that a fragment of the bone had bruised the nerve.

DR. J. M. ELDER had been particularly interested in the case as he had been following the cases recorded by British and American surgeons in the South African and Spanish-American wars. They had shown that a nerve might be rendered quite functionless if a high velocity bullet passed near the nerve without actually injuring it. This only occurred where the bullet had obtained great velocity.

DR. SHIRRES referred to the fact that Vausmann had shown that if the sciatic nerve were stretched sufficiently it would be followed by loss of sensation and paralysis of the parts supplied by it. He thought it was possible in this case that the velocity of the bullet had stretched the nerve.

DR. BELL was more inclined to look upon the injury to the nerve as resulting from neuritis, rather than from stretching. He related a case in which paralysis had followed dragging on a nerve during operation; it had not occurred immediately after the operation and developed only on the following morning.

Blastomycetic Dermatitis.

DR. F. J. SHEPHERD presented before the society a patient who had been under treatment for blastomycetic dermatitis, and who had been shown previously when only six weeks under treatment. His condition had much improved, although he had discontinued treatment for a time.

Resection of the Colon—Osteomyelitis Cases.

DR. JAMES BELL read the reports of the operations and history of the cases, and DR. EDWARD ARCHIBALD showed the pathological specimens. See page 95 of the February number.

DR. F. J. SHEPHERD thought Dr. Bell was to be congratulated on having removed successfully a malignant tumour together with a portion of the large intestine.

DR. E. A. ROBERTSON asked if there was any history of injury before the onset of the symptoms. He referred to a case of sarcoma in a child between two and three years of age, in whom a history of injury had preceded the appearance of the tumour and was thought to have possibly some connection with it.

DR. BELL, in reply, said that he did not know of any whatever in the history of the patient.

Notes on Tuberculosis.

DRS. C. F. MARTIN and F. T. TOOKE contributed this paper, which will be found at page 111 of the February number.

DR. F. G. FINLEY thought that now the hospitals had refused to admit well marked cases of tuberculosis, the ratio of latent to well marked cases was greater than formerly. He could fully confirm most of Dr. Martin's observations. He had frequently seen patients gaining weight even though they had considerable fever.

DR. RICHER thought that the facts brought forward by Dr. Martin ought to put the profession more on the alert regarding the early diagnosis of the disease. Tuberculosis often developed when least expected, and was even mistaken for typhoid fever. For this reason every method of diagnosis, although possibly not thoroughly well proved, should be made use of. Tuberculin in his hands, had proved satisfactory, both as a means of diagnosis and an agent to arrest the disease. Another method of diagnosis lately introduced might possibly be found helpful, this was the work of Arloing and Courmont of Lyons, which was practically the sero-diagnosis of Widal applied to tuberculosis. Time would show to what extent this new method of diagnosis was to be relied upon.

Two Cases of Symphysiotomy.

DRS. REDDY and SPRINGLE reported two successful cases of symphysiotomy, of which the following is a condensed account.

Case I.—Patient, aged 35 years, height 43 cm., weight 102 pounds, married eleven years. She has had five children, all removed by craniotomy after forceps, turning, etc., had been tried and failed. On September 2, 1900, labour began in the sixth pregnancy, patient having entered the Women's Hospital. A successful attempt at delivery by

symphysiotomy was made. The true conjugate was made out to be 7 cm.

After aseptic precautions had been taken, the symphysis was exposed and the cartilage separated, and all bleeding points stopped. The child was then turned, the feet being drawn firmly down until the child's body would come down no further, when Dr. Springle cut the supra-pubic ligament with a pair of scissors and the bones separated, the infra-pubic ligament tearing off one side. The separation measured 4 cm. (1.75 inches). The child was now delivered without any great difficulty. The patient's legs were kept flexed on the abdomen during the whole of the operation as well as during the convalescence, whenever it was desired to put her on the bedpan or change the bed, etc., this tending to keep the bones from separating. Recovery was uneventful, and at the end of fourteen days (without permission) she was walking about. There was no pain, good union, and the child was well and nursing.

Case II.—Patient, aged 28 years, weight 160 pounds, married six years. Has had four children, the first of which was delivered with great difficulty by the aid of forceps and, although living, is badly deformed and partly paralyzed. The second died during birth (forceps). The third child, a difficult forceps case, lived one month. Being again pregnant she desired to save the child, and came into the Women's Hospital in labour on September 29, 1900.

On examination, the antero-posterior diameter of the brim was found to be 8 cm. After the usual precautions, the same steps were followed as in the last case, the separation, however, being not quite so great being probably not over 3 cm. A healthy child weighing eight pounds was delivered. The patient was treated in the same way as the last and made an uneventful recovery, insisting on going home on the 15th day.

In neither case was there a rise of temperature at any time during convalescence; no hæmorrhage, little or no pain in the pelvis. Both cases recovered as well as an ordinary simple case could do, and were well at the present time.

DR. D. J. EVANS, while congratulating Drs. Reddy and Springle on the very successful cases reported, confessed to having looked upon symphysiotomy with a certain amount of disfavour recently. The question as to whether it was a suitable operation for the general practitioner to undertake was open to criticism. The results would have to be followed more closely before the matter could be settled. Of the four cases that the speaker had been personally concerned with, two were unsatisfactory, one from pelvic trouble for two years after operation. Dr. Evans then quoted Williams of Philadelphia as showing, by

collecting as large a number of cases as possible at present, that the maternal mortality was about equal for Cæsarean section and symphysiotomy, but that the child mortality was much higher in the latter. As regards the after effects, the advantage was in favour of Cæsarean section. The speaker thought it was an extremely difficult matter to determine whether the child's head was likely to mould or not, and this factor could not be taken into account in deciding upon what plan of operation to adopt. He stated that in his own cases symphysiotomy had been followed by a rather difficult forceps operation, but after hearing the paper read he would feel inclined to try version, as the authors of the paper had done, in those cases where the head did not descend into the brim after cutting the symphysis.

Dr. Kenneth Cameron related the subsequent history of a case of symphysiotomy which he had reported before the society in 1895. In 1893, a very small child of about five pounds was delivered by forceps, and twenty months later the operation of symphysiotomy was performed for the delivery of another child of seven and a half pounds. After this the woman complained of considerable pain in the right iliac joint for about four months. Again after twenty months she was confined and delivered, after a very short labour and without the aid of forceps, of a child weighing nine pounds. Four years later, at her fourth confinement, the head was found moulding in the pelvis. After waiting some time and failing to extract with forceps, he had sent for Dr. Evans who had applied the axis-traction forceps, but also failed to make any impression, so it was decided to perform craniotomy. As the first application of the forceps had injured the child, neither Cæsarean section or symphysiotomy would have been of any avail in saving its life, but it was doubtful if the latter could have been performed without considerable difficulty, as the symphysis was firmly united. The child had been a very large one, weighing between ten and eleven pounds.

Dr. Reddy, in reply, could not agree with Dr. Springle in looking upon the operation as an easy one for anyone to perform. It required a surgeon. He thought the operation had only a narrow range of usefulness. Outside, in suitable cases, symphysiotomy was to be preferred but in hospitals, Cæsarean section was best. A great part of the after treatment was in keeping the bones in actual apposition for a considerable period.

Stated Meeting, February 8, 1901.

James Perrigo, M.D., President, in the Chair.

Dr. Charles H. Gurd, of Montreal, was elected an ordinary member of the society.

A Peculiar Case of Appendicitis.

DR. J. M. ELDER presented this case. See page 201.

DR. LAPTHORN SMITH considered the case instructive from many points of view. It showed that no matter how difficult a matter may seem it was better to operate than to leave it alone. He thought the probable sequence of events was that the hernia of the appendix had first occurred and resulted in strangulation with the development of the inflammatory condition.

DR. G. E. ARMSTRONG congratulated Dr. Elder, and thought that one of the secrets of his success was that he had had here to deal with what was practically an extra-peritoneal condition. He asked Dr. Elder if the sac of the hernia was involved.

DR. BELL was inclined to look upon it as primary hernia with secondary appendicitis.

DR. ELDER, in reply to Dr. Armstrong, said that hernia had simply come down to the tunica vaginalis, and that there was no peritonitis, as the strangulation had practically prevented it.

Abscess of the Lung.

DR. JAMES BELL read a paper on this condition and showed a patient on whom he successfully operated. A report of the case will be published in our next issue.

DR. J. M. ELDER referred to a case of abscess of the lung which he had operated on in much the same way as Dr. Bell, and with a successful result. The patient came to the hospital and was operated on for hæmorrhoids. About a week later the woman had a chill, and developed septic symptoms with dulness at the base of the right lung, but an aspirating needle failed to find any pus, although later its presence was discovered in this manner. On resecting a portion of a rib, the pleural cavity was found obliterated, and on entering the lung, pus came away freely. Chloroform was made use of as the anæsthesic to diminish as much as possible the spasm, coughing, and vomiting that are apt to occur during ether anæsthesia.

DR. H. A. LAFLEUR thought that abscesses of the lower lobe were much more favourable as regards cure than those of the upper lobe. In a case which he had seen in the upper left mammary region, there had been great difficulty in getting drainage, and the cavity had closed up to a certain point, and then remained stationary for weeks and months, the patient all the time spitting up an offensive pus and having a purulent discharge from the sinus. In spite of this the patient had gained in flesh and strength.

DR. HAMILTON had seen Dr. Bell's patient several times during his stay in the hospital and had been struck with the fixedness of his

attitude in bed. He asked if Dr. Bell could explain why a slight change in position had been difficult. He had not seen it in other cases. Another interesting point was the great loss of weight for a non-tuberculous subject, 45 pounds in four months. He had seen the same thing in pleurisy where a tuberculous process was not demonstrable, the patient losing 30 pounds in less than three months and regaining rapidly when the condition was alleviated.

Dr. G. E. Armstrong had only had to do with cases of abscess in the upper lobe, and the difficulty had been to get the sinus to close. An essential feature to the success of the operation was adhesion between the two pleural surfaces, so that one could get access to the abscess cavity without collapse of the lung or infection of the pleural sac. Another essential feature was the relation of the opening of the bronchus into the cavity. In the two cases he had operated on, he could distinctly feel that the opening of the bronchus was into the top of the cavity. This probably explained the coughing and free purulent expectoration, which took place on change of attitude, the pus collecting in the cavity poured out when the opening became dependant. A third important point was to get drainage from the bottom of the cavity. In two cases in which the opening had been made into the middle of the cavity, the sinus and coughing up of pus had persisted in spite of the gain in weight and strength. These patients had been advised to leave hospital for a while and then return, in order that an attempt might be made to make a fresh opening at the bottom of the cavity.

Dr. Bell, in reply, stated that in one of his cases, a child of five, the abscess was in the upper lobe and was opened, near the apex of the axilla, into the lower part of the cavity. In the second case the cavity was fairly high up about the middle of the lung. The question of dealing with a tuberculous cavity was another matter altogether. It was rare to find a tuberculous cavity so favourably situated as a post-pneumonic abscess, where the lung was firmly adherent, so that there was not the risk of contaminating the pleural cavity.

The cause of the patient's attitude was that pointed out by Dr. Armstrong, the internal communication with the bronchus was so situated that while he lay on his side the expectoration came away gradually, but as soon as he stood up the fluid entered with a gush into the bronchus and set him coughing. The loss of weight was probably due to a septic condition persisting for four months.

The speaker did not think the site of the drainage tube ought to be important. These two cases had been drained from about the middle of the cavity, contraction must be allowed for. It was quite remarkable to him that these cavities did close up and not leave a sinus as,

from the fixed condition of the lung, it would often seem impossible for the cavity to contract sufficiently. A persistent sinus was probably due to this cause.

Intussusception in an Infant.

DR. G. A. BROWN read the report of this case as follows:

Baby L., male, aged eleven months, has been nursed by the mother and during the last two months has had Nestle's food in addition to breast milk. The present illness began on a Friday night at half past twelve o'clock with vomiting and diarrhœa. I saw the baby about one o'clock a.m., and on examination, found an anæmic, anxious-looking infant, with a pulse of 120. The stools were found to contain green fecal matter mixed with bloody mucus. The baby was given a mixture containing bismuth and opium during the night, and in the morning its condition was much the same, pulse 140, temperature 100° F. During the night it had vomited frequently and had had four discharges composed of blood and mucus. The medicine was changed to bismuth powder by the mouth and an injection of starch and opium every four hours.

When I saw the baby late Saturady evening its condition was fairly good. During the day the infant took the breast and did not vomit, but had attacks of crying during which he had cramps, ending by a discharge of blood and mucus, but no fecal matter. On making an examination of the abdomen, I found a small mass in the region of the sigmoid flexure, and then I realized that I was dealing with a case of intussusception. I returned home, got my irrigator and attempted to reduce it, and after a good deal of manipulation I could not make out the tumour, so I decided to wait until morning, and if there was no change to have the case operated upon.

Sunday morning the tumour was quite apparent and much larger, and the condition of the baby was very good—temperature 100°, pulse 130. I got Dr. Bell to see the case with me and he confirmed the diagnosis and made arrangements to operate immediately.

DR. BELL had seen this case with Dr. Brown 36 hours after the diagnosis of intussusception. On opening the abdomen, he found that the intussusception had occurred at the cæcum, and that it had been forced down until it was well down into the rectum. All the attempts which he thought it wise to make, failed to reduce it, and he had then incised the sigmoid flexure, brought up the end of the mass, and attempted to reduce it in this way, and again failed. The portion of the bowel involved was then excised and the ends united by Monsell's method. The child died at 7 p.m., apparently never rallying from the shock.

In the speaker's experience of these cases of intussusception in infants

requiring operation, where reduction could not be affected and an operation of this sort had been undertaken, the results had been almost uniformly unfavourable. He attributed this, firstly, to the fact that 24 or 36 hours had usually elapsed before the operation was undertaken, and secondly, that young infants stood very badly a prolonged operation. This operation had occupied less than an hour from the commencement of the anæsthesia.

Fibroid Uterus and Shrunken Condition of the Omentum.

Dr. Lapthorn Smith showed a fibroid uterus about the size of a cocoanut which he had removed a month previously by abdominal section. The patient was anæmic from prolonged hæmorrhages and had a cachectic look suggesting malignant disease. She was aged 65 years, the mother of twelve children. The speaker contended that, in view of the greatly reduced mortality of abdominal hysterectomy, this being his fifteenth case without a death, the operation should be undertaken more often, and before the growth had become large enough to produce symptoms by pressure on the sympathetic nerve or on the ureters. The liability to sloughing, suppuration, or malignant degeneration of the growth, was also pointed out, and also the fact that these tumours did not always stop growing at the age of forty-five. He strongly urged early operation.

Dr. Smith also wished to call attention to a condition of the omentum which had apparently not been noticed by writers of gynæcological text-books, namely, in cases of cancer of the omentum there was a shrunken condition of the omentum which could not be brought down to the abdominal incision, being about an inch wide and feeling like a piece of burnt leather attached to the lower border of the liver. He had noticed that when this condition was present, although there was no evidence of disease other than this in the peritoneum, the prognosis was bad, as the case was likely to prove malignant and die within a few months. He cited a number of cases illustrating this point.

Dr. Lafleur was surprised to hear Dr. Smith say that the extension of cancer to the peritoneal membrane was a new fact. His impression was that it was one of the most common and familiar changes observed. One could often make out during life, if there was no ascites, a firm mass lying across the abdomen consisting of the fibroid contracted omentum.

Dr. Smith admitted that when he had stated that there was no mention of such a condition in the text-books, he had referred to works on gynæcology which he had consulted.

Omental Hernia with Abscess in the Sac.

Dr. James Bell reported the following case:—

A. B. French Canadian, about 48 years of age, weighing over 200

pounds, has had a right inguinal hernia for from twelve to twenty years, and off and on has worn a truss, but not lately. Twenty-four days ago he was seized with symptoms of strangulation and vomiting, which became stercoral. There was great swelling and the hernia could not be reduced. After about three days the symptoms of strangulation passed off but it was impossible to reduce the hernia.

On admission to hospital the sac was very large and exceedingly tense; the temperature 101° F.; there was no pain; and the bowels moved freely after castor oil. On opening the sac, about a pint of horribly stinking pus escaped, and one can see the erosion of the parts by it. I dissected out the omentum, cut it off and then removed the sac. The tissues all around were œdematous and in a very unhealthy condition; for a septic condition, the patient, however, did very well.

The specimen here exhibited is the hernial sac and within is the mass of omentum removed. The important points are the unusually large amount of omentum, which forms the hernia, and the occurrence of an abscess in the sac.

Dr. Elder was of the opinion that it was in these cases of strangulated omentum that one was likely to get pus in the sac. He referred to a somewhat similar condition in an umbilical hernia he had operated upon. An interesting question was why in strangulated omentum pus should be formed and also why symptoms of intestinal obstruction should take place, just as if the bowel were involved.

OTTAWA MEDICAL SOCIETY.

This Society met in Water Street Hospital on Friday, February 22, 1901.

Dr. J. L. Chabot, President, in the Chair.

Case Reports.

Dr. Troy reported a case of *Tuberculous Peritonitis* recently operated upon. Twelve quarts of fluid were removed. The case was doing well.

Sir James Grant reported a case of *Hæmorrhage* at the fourth month of a young secundipara, lasting for three months, off and on, and sometimes severe. It was treated by rest in bed with ergot, and went to term. There was serious adhesion of the placenta to the uterus at the site of the hæmorrhage, requiring removal by the introduction of the hand. The case did well.

Dr. Troy reported a case of *Rheumatic Fever* in a woman of 55 years recently treated to recovery by salicylates. During convalescence, though nine years past the menopause, she began to have a flow of blood

from the vagina. This she attributed to the salicylates. On examination, a large cauliflower growth was found affecting the cervix, which had hitherto caused no symptoms. In a day or two the characteristic odour developed.

Hypnotics.

DR. SMALL read a paper on hypnotics. The result of his examination of many clinical reports in magazines, and enquiries of druggists as to the drugs most called for by physicians, went to show that the older drugs still held the field. Chloral, sulfonal, and trional, appeared to be the favourites. Dr. Small then showed tabular diagrams of a number of hypnotics, pointing out the chemical relations of the alcohol, the chloral, and the sulfonal series, respectively, and explaining the composition of several of the semi-proprietary remedies, such as somnal, hypnal, chloralose, etc. These were largely chloral with something else added. He discussed the physiological properties of the different groups and their relations to conditions of high or low blood pressure in the patient, the chloral series being useful in the former the sulfonal in the latter. The vegetable hypnotics were then reviewed, and their undesirable, associated actions in other directions pointed out. The interest of heroin (diacetyl-morphine) and peronin (benzyl-morphine) was alluded to, as the first examples of the replacement of elements in an alkaloid molecule by synthetic elements.

A long discussion followed as to the values, dangers, and uses of the different drugs mentioned.

THE

Montreal Medical Journal.

A Monthly Record of the Progress of Medical and Surgical Science.

EDITED BY

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GEO. E. ARMSTRONG, G. GORDON CAMPBELL,
WILLIAM GARDNER, FRANK BULLER,
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WITH THE COLLABORATION OF

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C. F. MARTIN, J. W. STIRLING, KENNETH CAMERON,
J. M. ELDER, F. A. L. LOCKHART, C. W. WILSON.
D. J. EVANS, W. F. HAMILTON, A. G. NICHOLLS,
A. E. GARROW. E. J. SEMPLE, W. W. CHIPMAN.

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THE TUBERCULOSIS CONFERENCE AT OTTAWA.

We congratulate Lord Minto upon having followed in the footsteps of our King Edward and upon giving the full support of his influence in helping forward the crusade against tuberculosis by calling the recent conference at Ottawa and allowing himself to be patron of the Society for the Prevention of Tuberculosis which originated in connection with that conference. Much can be accomplished in popularizing the knowledge of what tuberculosis is, how it can be prevented and how the condition of those suffering from the disease can be ameliorated, and much has been done throughout the whole extent of the Dominion by individual medical men and laymen towards this end. But isolated action is from its very nature largely ineffective; we can, for example, occasionally, through medical societies and by means of deputations, bring before the Federal and Provincial Governments the need for legislation and regulations tending to lessen the spread of the disease, but the good accomplished by memorials and deputations is, after all, very partial. A little advance is made and then, the matter not being kept before the Governments, recommendations are very apt to be forgotten and the subject becomes pigeon-holed until another spasmodic effort is made by those interested in the subject.

The establishment of a permanent association working steadily to one end, promises much better results; such an association can in the first place disseminate pamphlets and literature bearing upon the subject far and wide, and this in such a way as to keep the matter constantly before the public. Its publications can influence all sorts and conditions of men from the school room upwards; it unites together all those interested in the subject and supplies the organization which can with the least possible effort bring a steady and weighty pressure upon our legislatures.

It is a good move on the part of the Association, we think, that it has established its headquarters at Ottawa where, not only can it make its influence felt by the Government but also it can be sure of obtaining representatives from all parts of the Dominion upon its council from among members of Parliament and those whose business calls them regularly to the Capital. Had its centre been established elsewhere the difficulty in bringing members of the council together from all parts of the Dominion at stated intervals, would have been so considerable that almost inevitably the central organization would fail to be representative of the whole country.

We have in the preceding pages published some few of the addresses delivered at the Ottawa Conference. Those addresses do not in any way pretend to be scientific communications; the object of the various speakers was to bring forward before the people in general the danger of tuberculosis and the need of preventive action. We have however printed them with pleasure believing that the general statements contained in these addresses will be of even more use to the ordinary medical men who wishes to influence those with whom he comes in contact in the right direction, than would carefully detailed tables of statistics or exact accounts of individual experiments. It is useful occasionally to sum up the general broad position of our knowledge upon a subject, and in these addresses such a summing up will be found.

Very much remains to be done, by the individual and by the Provincial and Federal Governments, but the more our people in general understand the problems which have to be faced, the more they see what has been accomplished elsewhere, the more rapidly will they and the Governments be prepared to take such action which will bring about that the 20th century becomes known as the century in which tuberculosis, once the greatest of all scourges and the most prominent item in mortality tables, became one of the less considerable of the diseases from which human beings suffer. Medically speaking there is not a little resemblance between leprosy and tuberculosis. We are apt to forget that the former of these diseases was so widespread in the

Middle Ages as to be a common bane of society; that even in those dark days the charitable established hospitals and what may be termed isolation wards all through the land; that, indeed, these leper hospitals were among the earliest of hospitals proper; and that, by the general combined action of all classes of society, leprosy was eradicated from central and the greater part of Southern Europe. There is no reason why combined effort should not produce the same result in connection with tuberculosis.

The Pathological Institute at Berlin, containing the wonderful Verchow collection, has been destroyed by fire.

Dr. Richard J. Dunglison, the editor of Dunlison's Medical Dictionary, of which his father, Robley Dunglison, was the author, died at his home in Philadelphia on March 4th.

The twenty-seventh annual meeting of the American Neurological Association will be held in Boston on June 19, 20 and 21, 1901. The meetings will be held at the Boston Medical Library.

The University of Pennsylvania has readjusted its course so that students in arts or science can complete their course and take the medical degree as well in seven years. A senior in either arts or science may be a freshman in the medical school.

Dr. Hiram N. Vineberg, Holmes' Medallist, McGill, 1878, has recently been appointed Adjunct Attending Gynæcologist to the Mount Sinai Hospital, New York. Dr. Vineberg already holds the position of Attending Gynæcologist to St. Mark's Hospital.

According to the last annual report of the Minister of Agriculture, there are in the Lazaretto at Tracadie, N.B., twenty inmates, thirteen males and seven females. Their ages range from nineteen to sixty-four years; and seven of the inmates may be classified as being in the first stage, twelve in the second stage, and one in the final stage of the malady.

Dr. J. G. Adami, Professor of Pathology, McGill University, has been appointed Vice-President of the Section of Pathology and Dr. Duncan McEachran, Dean of the Faculty of Comparative Medicine and Veterinary Science, McGill University, has been appointed Vice-President of the Section of Comparative Pathology, at the British Congress on Tuberculosis, which meets in London on July 22, 1901.

The Colorado State Medical Society offers a prize of twenty-five dollars for the best essay, if deemed worthy of the prize, pointing out the dangers to public health and morals, especially to young persons, from quackery as promulgated by public advertisements.

The competition is open to all. Essays must be typewritten in the English language, and submitted before May 15th, 1901. Each essay must be designated by a motto; and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the Society for publication. Others will be returned on application. Essays should be sent to the Literature Committee, Room 315 McPhee Building, Denver, Colorado.

The honorary secretary of the New Sydenham Society, Mr. Jonathan Hutchinson, in a letter published in the English journals, explains that the *raison d'être* of the Society has to a large extent been removed, now that "the supply of medical literature is very liberal, and works of real merit published abroad do not long wait for translation." Consequently it is proposed to issue in the next five years an atlas of clinical medicine, surgery, and pathology, "Pictorial Aids to Diagnosis," fasciculi of from eight to ten plates to be issued every two or three months. To do this the present membership of 1,400 must be increased to at least 2,000. In the event of the necessary number of new subscribers not being forthcoming, it is proposed to [illegible]pand the society. In the latter event, it is possible that the publication of the atlas will be undertaken independently of it.

An important decision has lately been rendered by the Supreme Court of California with regard to a physician's right to resign a case which he had undertaken. Dr. P. H. Flood, while in attendance upon a lady in confinement, decided that it was necessary to apply instruments, but her screams interfering with his attempts to do so, he finally left the house, against her husband's wishes. The lady sued for, and was awarded, $2,000 damages in the lower court. On appeal to the Supreme Court, the decision was confirmed, the judge saying—"that a physician may elect whether or not he will give his services to a case, but having entered upon his employment, he is bound to devote to the patient his best skill and attention, and to abandon the case only under one of two conditions. First, when the contract is terminated by the employer, which termination may be made immediately. Second, when it is terminated by the physician, which can be done only after due notice, and an ample opportunity afforded to secure the presence of other medical attendance."

McGILL UNIVERSITY—FACULTY OF MEDICINE.

REGULATIONS REGARDING THE DIPLOMA IN LEGAL MEDICINE SANCTIONED BY CORPORATION FEBRUARY, 1901.

The matter of the suggested diploma in Legal Medicine, the principle of which has been accepted by the Faculty, having been by that body referred back to the Education Committee, for fuller details, your Committee begs to report and to make the following recommendations:

That graduates in medicine who are candidates for the diploma in Legal Medicine of McGill University must present certificates of having attended the following courses:—

1. A course of six months scientific study in legal medicine consisting of systematic lectures and practical medico-legal and toxicological instruction in laboratories and elsewhere.

2. A course of six months training as assistant in medico-legal practice: The candidate shall produce a certificate, or certificates, satisfactory to the faculty, that he has continuously and actively assisted in the regular duties of some medico-legal Expert recognised by the Faculty. Of the two 6 months courses referred to in this and the preceding paragraphs, not more than three months shall be concurrent.

3. Curriculum. A special course—or courses—of lectures in legal medicine and mental diseases. 4. A practical (laboratory) course in toxicology. 5. A course of instruction in the law relating to medicine and to the status, rights and responsibilities of the physician. 6. A series of short courses with demonstrations upon the following subjects: (1) Methods of conducting medico-legal autopsies. (2) The methods of medico-legal microscopy; procedure in the examination of blood stains, etc. (3) Methods of Skiagraphy. (4) Methods of procedure in cases of wounds and injuries. (5) Methods of procedure in cases of assaults upon women and upon children. (6) Methods of procedure in cases of abortion and infanticide. (7) Methods of procedure in cases of the determination of sex and paternity. (8) Methods of procedure in cases of offense against morals. (9) Methods of procedure in the study of mental conditions. (10) Methods of procedure in examination for life and accident assurance. (11) Estimation of compensation for injury.

No candidate shall be admitted to any portion of the examination for this diploma until at least one full academic year has elapsed since his graduation in medicine.

The examination shall be both written and practical and shall extend over a period of not less than three days. It shall be conducted by examiners appointed by the Faculty.

The extent to which special instruction leading to the diploma will be given by the Faculty will be as announced from year to year.

Proceedings of the McGill Medical Society of Undergraduates.

THE EARLY HISTORY OF AUSCULTATION.

ADDRESS BY

F. G. FINLEY, M.D.

Gentlemen,—

The present century has been marked by a remarkable growth in all branches of scientific knowledge. During the past quarter of the century, in particular, discoveries have poured in so rapidly as to require constant application to keep abreast of the times in any one department of knowledge.

In the medical sciences advance after advance has in many subjects completely altered our point of view, and we now regard many morbid processes from a vantage ground not enjoyed by our predecessors. I need only refer to the knowledge gained by the study of bacteriology, how completely this science now dominates our views of pathological processes, and to what brilliant results it has led in the prevention and in some instances in the cure of disease.

Immersed as we are in the study of the medicine of to-day, we are, perhaps, a little apt to underrate and lose sight of the work of our predecessors. To-night I purpose tracing briefly something of the lives and work of some of the great masters of the earlier half of the century which has just passed, and in doing so I shall confine myself to a few of those whose labours served to establish the methods of physical examination in diseases of the chest. To their great credit it may be said that they discovered practically everything which the auscultator of to-day uses in his daily work.

Percussion was discovered and practised to a limited extent by an Austrian physician named Auenbrugger long before Laennec introduced auscultation.

Auenbrugger was born in Graz in Styria in 1722, and after graduating in Vienna he became physician to the Spanish Hospital of that city. After seven years patient investigation he published an account of his researches on percussion in a modest pamphlet. This obtained but little notice at the time and soon fell into oblivion, from which it was rescued by Corvisart in 1808, thirty years later. As the originator

* Read before the McGill Medical Society, March 15, 1901.

lived to 1809, he had the satisfaction of seeing his discovery recognized as a valuable method of investigation. Immediate percussion was the method adopted, the chest being struck by four fingers and careful comparison of the two sides made. It was not until 1828 that Piorry introduced the pleximeter and the method of mediate percussion came into use.

In the early part of the century the great centre of medical thought was at Paris. The French school had thrown itself with ardor into the study of morbid anatomy. Bichat had published his memorable work on the membranes and tissues of the body in 1801, and so laid a foundation for a system of medicine based on morbid anatomy.

Amongst the brilliant galaxy of physicians and teachers of the French capital, Théophile Laennec stands out prominently as the discoverer of the stethoscope and of the art of auscultation.

Born in 1781, he received a sound classical education which he utilised in later life in conveying his meaning to the foreign physicians following his clinic at the Charité. In 1800 he entered the Ecole de Médicine of Paris, after a preliminary course at Nantes. His ability and industry marked him from the first, and his notes of nearly 400 cases served as the foundation of his future work.

His teaching work commenced, like that of many other distinguished physicians, with pathology, of which he was an earnest student. In 1812 he was appointed physician to the Beaujon Hospital and four years later he received the post of chief physician to the Necker Hospital. It was here that he made the discovery of the stethoscope which has made his name so famous. In his own words: "In 1816 I was consulted by a young woman labouring under general symptoms of diseased heart, and in whose case percussion and the application of the hand were of little avail on account of the great degree of fatness..... I happened to remember a simple and well known fact in acoustics, and fancied, at the same time that it might be turned into some use on the present occasion. The fact I allude to is the augmented impression of sound when conveyed through certain solid bodies.....Acting on this suggestion, I rolled a quire of paper into a kind of cylinder, and applied one end of it to the region of the heart and the other to my ear, and was not a little surprised and pleased to find that I could thereby perceive the action of the heart in a manner much more clear and distinct than I had ever been able to do by the immediate application of the ear. From this moment I imagined that the circumstances might furnish means for enabling us to ascertain the character, not only of the heart, but of every species of sound produced by the motion of all the thoracic viscera.....With this conviction I forthwith com-

menced at the Hôpital Necker a series of observations which have been continued to the present time. The consequence is that I have been enabled to discover a set of new signs of diseases of the chest, for the most part simple and prominent, and calculated perhaps to render the diagnosis of the diseases of the heart, lungs, and pleura, as decided and circumstantial as the indications furnished to the surgeon by the introduction of the finger or sound, in the complaints wherein they are used."

In 1819 his great work "de l'Ausculation Médiate" was published, the phraseology of which is retained to the present day. The enormous amount of labour involved by this work told on a constitution never robust and for a period of two years he was obliged to retire to the country for a much needed rest.

On his return to Paris numerous honours were showered upon him, and in 1823 he was appointed Professor in the Paris Faculty and Physician to the Charité. After the second edition of his work he again broke down and died of phthisis at the age of 45.

At the Charité, says M. Bayle, a distinguished contemporary, "we had the opportunity of admiring, at once, the delight he took in the instruction of his pupils, the deep interest he had in the improvement of his art and his courage in surmounting habitual sufferings in order to indulge in his favourite pursuits. His painful efforts were rewarded in a manner most agreeable to him by a numerous concourse of pupils and even of distinguished physicians from every country in Europe."

Laennec's name will ever be associated with the introduction of the stethoscope and with auscultation. His pathological views were also sound and with the addition of the bacillus his teaching on phthisis might do duty to-day. Laennec taught the doctrine of unity of phthisis, regarding its essential nature as due to a particular species of accidental production named tubercle. He distinguished under tubercle insulated bodies and interstitial injection or infiltration. Later in the century much confusion resulted from the teaching of the German school, and it was only on the discovery of the bacillus by Koch that we again recognized the essential unity of the disease, the lesions resulting from the action of the bacillus on the tissues.

Laennec's views on heart disease were to a certain extent inaccurate owing to his ignorance of the normal sounds. The bellows murmur of mitral disease was regarded as due to the systole of the auricle, and the same murmur at the aorta was regarded and correctly as due to systole of the ventricle. He recognised a thrill due to advanced disease of the mitral and aortic valve. Murmurs were noticed in hearts presenting no valvular change and were correctly regarded as unimportant

unless combined with other circumstances calculated to confirm the diagnosis.

Much of Laennec's knowledge was empirical and his close observation of clinical facts often led to a correct opinion even when he could give no definite reason for the facts noted. This fact is well shown by one of his illustrative cases where he diagnosed mitral stenosis from the presence of a bellows murmur preceded by a rough sound like the rasping of a file on wood.

The teaching of Laennec awakened the greatest interest in the diagnosis of thoracic disease. His pupils carried his teaching to all parts of Europe and eventually established it as a part of the routine examination of patients.

Like many other great discoveries the use of the stethoscope made its way slowly. In an autobiography Dr. C. T. B. Williams after studying with Laennec, tells of his being engaged to travel with a wealthy patient suffering from a delicate throat. He met two leading London physicians to receive instruction about the patient. Williams ventured to ask if an examination had been made with the stethoscope and received a reply in the negative "with as much contempt of manner as politeness would allow." Subsequent examination showed a considerable disease of both lungs, and the development of pneumothorax fully bore out the opinion of the young physician. Another incident is related of Hope at St. George's Hospital. Dr. —— said he would choose half a dozen cases, write the diagnosis, and defy all the auscultators with their pipes, to throw more light on the case than he had already done..... One case was chosen. Dr. —— said it was "hydrothorax." Dr. Hope diagnosed "hypertrophy and dilatation of the heart, hydropericardium. Lungs gorged and emphysematous. Little or no hydrothorax." An autopsy subsequently confirmed Hope's opinion and silenced his opponent. Even as late as 1838 Sir Henry Acland states that he was ridiculed by a distinguished London physician for using the stethoscope, although in the Dublin school it had held its place for more than ten years.

Passing across the channel we may briefly refer to some of the early writers on chest disease.

James Hope 1801-1841 attained a great reputation for his work on the heart. He determined by experiment the cause of the sounds of the heart, and was therefore in a clearer position than Laennec in treating of valvular affections.

As a student he was President of the Medical Society in Edinburgh. After a period of study on the continent especially in Paris, he settled in London and followed closely the practice of St. George's Hospital, taking notes particularly of cardiac cases, to be afterwards used in his

book. He attained a position much earlier than most professional men, and although dying of tuberculosis at the age of 41, his talents and assiduity had placed him in the front ranks of London physicians. Hope did a good deal in clearing up many obscure points in cardiac pathology. He laid down clear rules for the diagnosis of aortic disease obstruction but was rather confused about mitral lesions.

Dr. C. T. B. Williams was one of the first to introduce the stethoscope into England. He recognized that Laennec's explanations of the physical phenomena were defective and showed a lack of knowledge of acoustics, and, in a little work published in 1828 he gave rational explanations of many of these signs which have been retained to the present day.

The Dublin school of medicine was justly celebrated in the first half of the century from the renown of its physicians and the excellence of their clinical teaching.

Stokes and Graves inaugurated an era of clinical teaching which has deeply influenced British medicine and their works were also read and appreciated on the continent. At least three of their pupils subsequently taught clinical medicine at McGill—the late Robt. L. MacDonnell, R. Palmer Howard and Dr. D. C. McCallum whom I hope may long be spared as an emeritus professor of this faculty.

Wm. Stokes, 1804-1878, was born in Dublin, and his name is familiar to you all as one of the partners in Cheyne-Stokes breathing. As a boy he caused his parents much anxiety by his indolence and distaste for any settled line of work. It is related of him that he was on one occasion awakened by his mother's tears, and comprehending the reason of her grief, was roused to active and enthusiastic efforts.

After studying at the Meath Hospital and pursuing a two years course of chemistry at Glasgow, he proceeded to Edinburgh where he came under the influence of Professor Alison, who implanted in him a love of clinical research.

Stokes early grasped the advances made by the French school in the diagnosis of thoracic disease, and in 1825, before taking his degree, he published a small work on the stethoscope for which he was fortunate enough to receive the sum of £70.

In addition to a great number of papers on medical subjects, Stokes wrote two books, which for long held their place as standard works, one on Diseases of the Lungs, and the second and later one on Diseases of the Heart. The latter I have often heard Professor von Leyden of Berlin refer to as "Das berühmte Buch von Stokes."

In private life Stokes was fond of music and art, and in trips to the Continent he took a keen delight in these subjects. He was also fond

of studying medical superstitions amongst the Irish peasantry, but judging from a story which he was fond of relating of the treatment of epilepsy he probably derived but few therapeutic hints from this source. Mr. Bland of Derriquin Castle, met one of his tenants, "Well, John," said he, "how is the boy." He's well, sir. "How did you cure him?" "I deluded him to your honour's bog." "And what did you do to him there?" "I drownded him your honour." "How was that?" "I brought him to the edge of your honour's bog-hole and threw him in suddint, and lept down upon him, and held him under the water till the last bubble was out of him, and he never since had a return of the complaint, glory be to God."

Robert Graves, 1796-1853, is best remembered by his Lectures on Clinical Medicine, a work which called forth the highest praise of Trousseau, the great French clinician. Perhaps his greatest achievement was his introduction of a supporting treatment for the continued fevers, and it is related that he suggested as his epitaph, "He fed fevers."

In 1821, Graves introduced a system of clinical teaching in which the student came into actual contact with the patient. He based his method on the German school, regarding it as superior to that of Edinburgh and Paris. His colleague and former pupil Stokes ably seconded his efforts and rendered Dublin famous as a teaching centre.

As a young man Graves travelled extensively on the continent and his command of German was so good that he was arrested in Austria as a spy, the authorities believing that no Englishman could have such a mastery of the language. In Italy he travelled with Turner, the celebrated painter, but although the two lived together for months they are said for a long time to have remained ignorant of each others names.

Graves' method of teaching consisted in note taking and investigation of actual cases by students with subsequent discussion of these in all their bearings. In Edinburgh the students followed the professor into the wards, crowding round the bed, but never having an opportunity of examining for themselves, the notes of the case being written by the house-physician. As Graves' remarks "under this system experience is only to be acquired at a considerable expense of human life."

Corrigan, a contemporary of Graves and Stokes, graduated at Edinburgh in 1823. His name will ever be associated with the collapsing pulse of aortic regurgitation, the condition being described by him in house-physician. As Graves remarks "under this system experience is great success in his native city, and his income is said to have been as high as £9000 a year.

Although the McGill medical faculty was founded by Scotchmen, and as pointed out by Dr. Adami in his address last year, the Edinburgh

rather than the London traditions were thus introduced into Canada, yet I think you will recognize in the clinical teaching of McGill a method based on that of Graves and his colleague Stokes. Free entry to the hospital wards together with individual examination and reports of cases form a most important part of the clinical teaching of this University.

In 1845, Dr. Robert L. MacDonnell, after being educated in Dublin, removed to Montreal and commenced practice. He held the chair of Physiology or as it was then known of Institutes of Medicine from 1845 to 1849, and that of Clinical Medicine for the year 1849-50. Having accepted a call to Toronto he found his surroundings there uncongenial and returned to Montreal to find his hospital position and professorship filled by others.

MacDonnell was a man of strong and vigorous character and judging from some of his controversaries he had an Irishman's love of a good fight. From an old note-book in the library it appears that he studied at the Meath Hospital under Graves and Stokes in 1837-40, and a number of cases are recorded by him seen at the Meath Hospital under these distinguished teachers. In one diagnosed as morbus cordis it is easy to recognise the advanced stage of mitral stenosis in the small weak pulse, the doubling of the second sound and in a remarkable fremissement.

MacDonnell was the first to introduce the stethoscope to Montreal where it was soon adopted by the other practitioners, and more important than this he introduced a system of clinical teaching in the wards of the Montreal General Hospital based on that of the Dublin school. To one of his clincal clerks, Dr. MacCallum, we owe a report of a number of interesting clinical cases in the pages of the British American Journal.

MacDonnell was the first to describe contraction of the pupil with slight ptosis in intra-thoracic tumour. The case is reported in the *British American Journal*, 1850-51. The growth was a very large one projecting into the neck, involving the whole lung, and displacing the heart and mediastinum to the opposite side. At the autopsy the 3rd nerve was found healthy and the condition was referred to pressure on the sympathetic. Some years later when Gairdner described this sign in aortic aneurism, MacDonnell again pointed out that it was a pressure sign and might be due to any form of tumour. In connection with this well known sign of aneurism it is rather remarkable that his son nearly 40 years later was the first to prominently direct attention to tracheal tugging. The rare condition known as pulsating pleurisy was first described by MacDonnell. Amongst many other writings may be men-

tioned one criticising Addison's paper on "The Fallacies of Physical Diagnosis." In this article he certainly disposed of many of the arguments against the stethoscope in a satisfactory manner, vindicating the methods with which the teaching of Stokes and Graves had rendered him familiar.

MacDonnell was the first in this city if not in Canada to advocate and to use the microscope in clinical work, and it is curious to read at this day the opposition it met with in some quarters. His opponents, however, soon found that it was no easy task to escape unscathed in a wordy tussle with the ready and eloquent Irishman, and the microscope duly took its place as an aid to the physician.

I have, gentlemen, in this brief sketch been quite unable to refer to many who have performed yeoman's service in advancing our knowledge of thoracic disease. The chief interest in the lives of celebrated medical men frequently lies in the work they have been able to accomplish for science and humanity, and from its very arduous nature they are usually prevented from taking a leading part in the active political and social life of their time.

We must remember with gratitude that it is to the earnest workers of over half a century ago that we owe so much of our present knowledge of the diagnosis of thoracic disease.