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PROCEEDINGS OF

British Medical Association

MONTREAL MEETING

1897

This Report is the first published in a Canadian Journal which contains Abstracts of Papers and Addresses, and Reports of Discussion. This work has been done by our special staff who attended the meeting for this purpose, also

Reports of Exhibits at Annual Museum.

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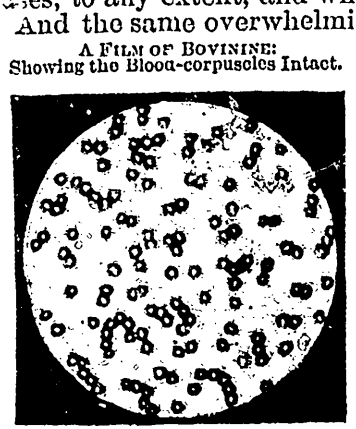

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VOL. IX. TORONTO, SEPTEMBER, 1897. NO. 3.

Proceedings of British Medical Association

MONTREAL MEETING, 1897.

THE BRITISH MEDICAL ASSOCIATION.

The Sixty-fifth Annual Meeting of the British Medical Association was held in Montreal, August 31st, September 1st, 2nd, and 3rd. Few, if any, realized the amount of work which the meeting meant. When we consider the work done by the officers of the various committees in arranging such an immense program of papers, and the amount of time and energy spent by the various contributors in the preparation of their (for the most part) elaborate papers, or the indefatigable labors of the president and the rest of his Montreal *confreres*, we get a faint idea of the general outline of the extent of this undertaking of holding a single meeting. And in view of all this tremendous work of self-sacrifice of time, and strength, and means, some may ask, has there been a *quid pro quo*. We assert undoubtedly, yes, and we believe this is the opinion of every one who had the good fortune to be present. Whether the meeting be judged from the scientific work reported as having been done by many of its industrious members, or from a social standpoint, with all which the word stands for, there can be but one opinion—the gathering was a magnificent success.

It could not be otherwise than a matter of very great interest that numbers of the leading surgeons, physicians from Britain, United States and Canada should meet in convention, not only to discuss questions regarding their high calling, but to meet in intercourse of the most friendly and intimate sort. And it was with no small amount of pleasure, not to say curiosity, that the Canadian men of the rank and file went up to Montreal to see and meet the Nestors and the Ajaxes of the profession, men about whom they had often read and whose works they had studied, from Britain and the adjoining Republic. And how were they impressed? What did they see?

Men who combine with their great knowledge of medicine and surgery, a high degree of culture and character, men, simple though dignified; gentle in address, though strong and manly; and men, in many of whom "the humanities" dwell. Their contact with us did us and will do us good: virtue went out of them. And this eulogy does not by any means reflect derogatorily on the practitioner in the colony, who has not had the privileges of his brother in the old land. He, we dare venture to say, has made good use of his opportunities and has certain qualities of character not at all marked in his transatlantic *confrere*. But these we shall allow him to comment upon.

We speak for the whole profession who visited Montreal, when we say that the genial and lavish hospitality of the people of that city has never been paralleled in Canada, if in America.

We hope the British Medical Association may not be long in coming to Canada again, and that on that occasion it may meet in the Queen City, Toronto.

Following is but a partial report of the great meeting, it being obviously impossible to get it in full, nor as fully as we should wish.

Our thanks are due to the *British Medical Journal*, the organ of the Association, for permission to publish a number of the best papers presented at the meeting.

PRESIDENT'S ADDRESS.

Tuesday afternoon, Dr. T. G. Roddick, M.D., M.P., President of the British Medical Association, delivered his presidential address. It opened with reference to the great work done by Lord Lister, who was present at the meeting. Following this he gave a rapid sketch of the history of the British Medical Association, referring to its origin and aims. He expressed his belief that this Association would be an important factor in bringing about Imperial Federation. The idea of Sir Charles Hastings, its founder, was to bring town into professional union with town, county with county. This idea had been growing stronger and state was being added to state, now continent to continent. He hoped that all who lived under the British flag would soon feel the beneficent influence of the Association. The Association had for its object the collection of speculative and practical information from essays and reports of cases in hospital and private practice; the increase of knowledge of the medical topography of England through geographical, meteorological and botanical inquiries and the investigation of epidemic diseases; the advancement of medico-legal practice, the upholding of the dignity of the profession and the maintenance of the friendly spirit among them. The early meetings were quiet in nature. Gradually the best men of each district became interested in it, and branches were formed throughout Britain. Branches now were formed in all the colonies. The formation of the Canadian branches was due to the work of Mr. Ernest Hart, in 1891. Through the earnest endeavors of the Canadian membership, they were honored with having the Association meet in Montreal.

Dr. Roddick then turned to a discussion of the health resorts of Canada. Broadly speaking, Canada was separable by climatic and physical conditions into three great regions, the eastern including Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and the great fur territory reaching to James Bay; the second, the central region, which extended from the eastern to the Rocky Mountains; the western region constituting the Pacific slope. The familiar geographical features of each of these regions were then described. His special reason for calling attention to the vast series of lakes and rivers was because of their

influence in preserving the mean temperature. From this vast and varied extent, Canada might be said to be the possessor of several climates—cold, moderate and dry. The speaker went on to describe the district of which St. Agathe, Quebec, was the centre, and Muskoka in Ontario. It was proposed to erect a sanitarium at Trembling Mountain. The Muskoka region abounded in pine forests. The climate was dry, pure and invigorating, and was especially beneficial for phthisical patients. Then in the west there was the beautiful valley of Kamloops, an all-the year-round resort. Crawford, a British army surgeon, published statistics to prove that few portions of the British Empire had a claim equal to Canada.

Hingston had proved, by observation on medical studies, that the lumbar strength of the British Canadian of the third generation exceeded by twenty pound, that of the recently arrived English and Scotch students. But the French Canadian of the tenth generation did better than all by nearly thirty pounds, so that in height and weight there had been a great increase over the original Normandy stock. But had the intellectual improvement kept pace with the physical? He thought he could say, truthfully, that it had. We had a very respectable literature, but the best intellect of the country was as yet absorbed in the practical affairs of life. Charles Dudley Warner had stated that the absence of intellectual effort was due to the coldness of the climate. The speaker thought that if he had said heat was the unfavorable factor in our intellectual life, he would not have been so wide of the mark. The extreme changes of our climate by training the system to endure severe physical conditions react favorably upon the mental attitude.

After referring to the various Canadian spas, he discussed the question of medical education in Canada. Time was when every medical school was a private affair, but that day had passed and with the beneficence of such men as Lord Strathcona and Mount Royal, the late John Moulton, the McDonalds, the Drakes, a great impetus had been given to the study of medicine.

He was not a advocate for state aid to the university to which he belonged. He was happy to state that fifteen to twenty per cent. of those who study medicine in this country to-day had a professional training in either arts or sciences. His leaning was to the science course. He thought this was preferable to the arts course if the student could take but one. He was in favor of making a new departure, that a special scientific education being arranged by the universities for those who desire to enter the medical profession. Such a course would embrace elementary Latin and Greek, French and German lessons, chemistry, biology, psychology, elementary mechanics, and a practical laboratory course on electricity and drawing. After two years' study, this might entitle the successful candidate to the degree of licentiate of science. Something of this sort had already been arranged in McGill. In regard to clinical teaching, small classes of students were taught by a clinical demonstrator to examine the case and study the physic of the disease. Their students were encouraged to attend the hospitals as early as the second year. Chemical and bacteriological laboratories had been added to the pathological department with the object of developing the scientific spirit in students and of cultivating methods of thought with observation.

THE ADDRESS IN MEDICINE.

By DR. WM. OSLER, Baltimore.

The speaker began by pointing out the difficulties in tracing the evolution of any science.

In the science of medicine these difficulties were vastly increased by the enormous development which had

taken place during the last century, but he would speak on certain factors which had influenced the profession in British colonies.

The importance of evolutionary phases or even great epochs were not appreciated by those who took part in them. Little did those who took part in the duel for their country in the last century understand its great importance. The events of that period had passed into history, and only now could we see their true importance and far-reaching results.

That such an English speaking association as this could meet in a French province and still be upon British soil, was one of the remotest results of this contest.

Again, it was a unique spectacle that one hundred years later the descendants of those who took part in the great struggle for independence on the part of the colonies, could meet in an English city in New France. Here Americans, English and French could forget their defeats by the one in their triumphs over the other and, altogether, in harmony welcome the members of the British Association on that land for which their ancestors had so vigorously contended. Continuing, the speaker declared that only once before in the world could such a meeting have taken place.

While in many respects the ancient Greeks were divided, yet sentiments of extraordinary strength united them in their festivals and assemblies. It would not be difficult to imagine such a meeting being held in one of their leading provincial cities and having delegates present from the farthest colonies.

In such a gathering too would be found men capable of discussing the medical problems more profoundly than in many subsequent periods, owing to the pre-Hippocratic philosophy.

The speaker then drew a parallel between the English and Greeks in that they were both free people with free colonies. In this last they differed from all other colonial empires. The parallel so often drawn he intended to use to emphasize two points, one of difference and one of resemblance. The Greek colony was as much Grecian as Athens or Sparta and was regarded as equal in every respect by the latter.

The British colonist, while he was not changed in any essential characteristic, was never regarded in the same light as the Grecian colonist. In fact there was a slight assumption of superiority on the part of the mother country, this assumption which is apt to jar colonial nerves, would be rendered impossible by the growth of an imperial rather than a national sentiment.

The difference was probably due to the fact that the Greek colony easily excelled the mother country, whereas with us the slower growth of the colonies made necessary several bitter struggles ere a lesson was taught which the Greeks never had to learn.

The Greek spirit saved and spread civilization in the west. It was irresistible, for its influence was spread even by those it conquered.

The love of mental culture and of freedom were the main essentials of Greek character, and why should not the Anglo-Saxons claim these distinctions, especially since they had developed to so great a degree that most important of all—the love of freedom.

The lecturer would not discuss the differences between the Briton and his colonial children—the task would be too large. He would be less ambitious. Nevertheless he hoped that in some other colony at some future date that the task, though difficult, would be ably dealt with.

As to the influence of Greece upon Britain the lecturer claimed that as only three centuries had elapsed since the revival of medicine in Britain one could not expect much, and yet owing to the favorable conditions of isolation many national characteristics had

developed, and these had left their impress upon the science of medicine. He would only touch upon a few of these in order to show the source of influence in the past and also possibly indicate the lines of future progress.

To Linacre, Sydenham and Harvey the lecturer traced the inspiration which makes British medicine what it is to-day.

To Linacre a high tribute was paid as the type of the "literary physician and man of learning." He was a man possessed by the enthusiasm of learning, critical and scientific; to him was due the credit of the revival of Greek thought and through him the science of medicine was made a careful study. From a literary point, he is to-day the chief representative of British medicine. In fact there has been no one able to fill the high place which he occupied in the world of letters. Although there have always been eminent men in our profession in Britain, still men of the type of Linacre are more to be found in France and Germany and it is by no means creditable to the British that so little provision has been made for those studies. The lecturer pointed out that practically the only followers of Linacre in this century were Francis Adams, Greenhill and Oyle and he considered that the profession generally had lost by this neglect of the humanities.

While, however, British medicine took a second place so far as critical and historical studies were concerned, this could not be said of it in regard to the humanities, a result due to the influence of Linacre exerted through the Royal College of Physicians and the Universities. The physician appeared at his best when with professional skill he combined those qualities of refinement and culture which go to make up what is known as breeding. This was exemplified in the cases of the Watsons, Jenner's and Pagets and others of Britain and in this country by Beaumont, Bovell and Hodder of Toronto, Holmes and Campbell in this city; and Hossack, Bard, Flint, Wood and Pepper of the United States. In the language of the greatest of these —Oliver Wendell Holmes—men like unto these have been the cream which has raised the profession above the dead level of business.

The lecturer then referred to the low status of medicine at the beginning of the seventeenth century, and then proceeded to show that Harvey's discovery was due to Linacre's influence in that the former followed the Greek methods revived by the latter. The speaker refrained from making any comment upon Harvey or the value of his great discovery, but one point he wished to mention was, that Harvey was a practising physician. It was a remarkable fact that most of the great physiologists of Britain were practising physicians. This was probably due to two causes: the independent character of the schools, but mostly to the practical character of the English.

Thucydides said of the Greeks that they thought ere they acted and then acted. This was eminently true of the English.

Here the lecturer referred to Sydenham as the model physician of modern times, and here again he traced the result to Linacre saying that he (Linacre) led Harvey back to Greek science and Sydenham back to Greek methods. These consisted of the study of disease as phenomena of natural history. It was in this way that Sydenham studied disease as is so clearly shown by his directions to intending writers, and by doing so he showed himself to be remarkably free from prevailing practice and dogma.

Sydenham, not Linacre or Harvey, is the model British physician, possessing in full the Greek power of thinking and acting. While the three great scientific branches of medicine, viz., modern "Clinical Medicine,"

pathology, and ætiology of disease have had their origin in France and Germany; the possession of this faculty has enabled the British to claim all the greatest practical advances such as vaccination, anæsthesia, preventive medicine and antisepsis.

Reverting again to Sydenham, the lecturer showed how totally his practice varied with existing authorities, and this lesson the speaker wished to emphasize, quoting as Sydenham's motto: "Thou, nature, art my goddess, to thy law my services are bound." In this connection the lecturer condemned an undue deference to authority and precedent, as it tended to retard scientific advances.

There have always been eminent men in every generation who, by their complacent conservatism, have been guilty of this fault. This is illustrated by the difficulty which Sydenham met in establishing the modern ideas on the treatment of fevers; and in the eloquent protests of Stokes against the indiscriminate bleedings and purgings of his day.

This, however, is beginning to change, and possibly we are going to the other extreme. A proper respect for authority, coupled with a judicious distrust, must be the attitude taken by the scientific investigator and teacher.

The speaker then came to the subject of British medicine on this continent, and spoke of three distinct waves of influence. The first from the early migration to 1820, the second from 1820 to 1860, and the third from 1860 to the present.

The first was contemporary with the revival of medicine in Britain, and some of the men of this period might have been fellow students of Harvey's. The first men of this period often combined the functions of parsons with those of physicians, and were men of upright kindly natures, studious and thoughtful for others. Up till the establishment of colleges in America in 1763 and 1782 the colonial students for the most part received their training under the great English teachers, and these formed a group of men who exerted a great influence in moulding professional life in America.

One of these, Morgan, founded the medical school of the University of Pennsylvania. The Revolutionary war interrupted the stream of students but not the friendship existing between the students and their old teachers.

The lecturer then spoke at some length upon John Hunter and his influence on colonial medicine.

Hunter was referred to as one in whose personality were found all the characteristics of modern medicine, and who for strength and breadth of intellect had few equals. His influence exerted itself in three ways. First, his career as an army surgeon carried his fame throughout the French wars and the war of Independence. Second, many of the most distinguished men from the colonies were his students, among these Shippen, first Professor of Anatomy in Pennsylvania University and Physick, who in his day was without an equal as a surgeon in America. Third, Hunter was a student of Natural History, and he realized that the phenomena of disease were merely phases of a process governed by laws which could not be understood until all the facts were carefully collected and systematized.

By his example he revived the methods of Aristotle, Galen and Harvey, lending a dignity to the study of organic life and making of physicians thinking naturalists. He it was who founded the great British museums, and it was his students who started the American museums. The influence of Hunter was shown in the fact that many of those whom he taught were naturalists as well as physicians.

Here the lecturer expressed his regret at the neglect of the study of Natural History in connection with that of medicine.

Coming to Canada, the speaker pointed out that with the first settlers were physicians, many of whom were Jesuits, one of whom, Rev. Goupil, was martyred. The Canadian physicians of that day were mostly men who had been army physicians, and this fact gave a military character to the profession They were men who had seen much service and were possessed of great skill and ability.

In 1819 a Medical Board was organized in Upper Canada, Drs. McCaul, and Widmer being the first members. The latter, called the father of medicine in Upper Canada, was a man of great ability and uprightness of character. Throughout his whole career he pursued the proper course, and did more than anyone else to advance the profession in this country.

The condition of medicine at the opening of the nineteenth century was shown to be very low, there being no successor to Hunter, and the teachers of that period indulging in abstract speculation instead of following the lines laid down by Harvey and Hunter. This continued for several decades, the revival beginning in France, when Lannec, by his studies, founded clinical medicine as we understand it. His discoveries in auscultation were only a part of his work. The French continued to lead the way up till the fifth decade, when the revival began in Britain and brought forth such men as Bright, Addison, Graves, Stokes and others.

The speaker then referred to the founding of medical schools and universities in Canada between 1820 and 1860. He showed that McGill in Lower Canada, was founded by Scotchmen, and followed Edinburgh methods, while Toronto and Kingston in Upper Canada were more influenced by men of English sympathies.

After 1860, Germany began to be felt owing chiefly to the pathological researches of Virchow. Previously to that, however, Skoda, Rokitansky and others had considerable influence on English thought and methods.

The subject of future advances in medicine was then dealt with. So far as Greater Britain is concerned the speaker considered that the strides of the last twenty years showed that we had entered on a period of extraordinary development. It would be difficult to say where the intellectual centre of the Anglo-Saxon race would be in 200 years. The mother country had too recently reached the first rank to say that she was at her best. In all probability she would reverse the history of Greece where the colonies outshone the parent state. In another century it might be just possible that either Canada or the United States would be the leading intellectual centre of medicine. Or, under at present unknown conditions, it might be Africa or New Zealand that would lead.

This was a startling thought, but not more so than the thought of this meeting in this place would have been to those of a hundred years ago. Of the great activity of modern medicine the two great meetings of this month bear ample testimony.

The science of medicine was free and cosmopolitan, knowing no distinctions of race or creed and not bound by any prejudices, and loyal only to truth. We had every right to be proud of it. The speaker almost ventured to hope that this example so well set by the science of medicine might also extend to the higher range of human affairs. But even if this might not be, at least it would not be too much to hope that the great race dominating the world to-day might progress in peace and harmony, bound together in the pursuit of truth.

It any case it remained for us Greater Britons to cherish the memory and example of the men who revived for us the Greek methods—Linacre, Harvey and Sydenham, our models in literature, science and practice.

THE SURGEON OF OLD, IN WAR.

By Mitchell Banks.

This address consisted in a sketch of some of the most notable work done of old by members of the profession who had never received their due reward – those who devoted themselves to the sick and the wounded in war. The essayist referred to a paper by the late Sir James Simpson, entitled "Was the Roman army provided with medical officers?" In this paper it had been proved that it undoubtedly was. The doctor then gave a *resumé* of the life of Ambroise Paré, Robert Clowes, Peter Lowe, Woodall, Richard Wiseman and Baron Larrey, reciting many of their brave deeds. He proved by reference to statistics that pestilence was more deadly than the sword and that therefore there was very great need of an efficient army medical service and closed with the following plea:

Ladies and gentlemen,—I have diverged from the beaten track common to the givers of addresses such as this, to tell you what splendid men have been the military and naval surgeons of old, who not merely did their duty nobly and courageously as such, but who in their day have enormously contributed to the advance of the art of surgery. I have done it with a purpose; with the hope of attracting more strongly than ever the sympathy and help of this great Association to their military brethren in a critical juncture of their history. To-day Her Majesty's Government cannot induce candidates to come forward for the medical service of the Queen's army. And why? Because it has persistently treated the Army Medical Department meanly and shabbily. To-day the Government of India can secure the services of the pick of our newly-fledged doctors for its army. And why? Because it has always treated the Indian Medical service liberally and generously. I am not going to enter into the reasons for this; I desire merely to emphasize one point, namely, that money is not at the bottom of this difficulty. The soldier-surgeons of to-day are the same men now that they were in the days of William Clowes, who winds up his book, as I shall my address, with these verses:

When valiant Mars, with brave and warlike band,
In foughten field with sword and shield shall stand,
May there be mist a surgeon that is good,
To salve your wounds and eke to stay your blood.

To cure you sure he will have watchful eie,
And with such wights he means to live and die,
So that againe you must augment his store.
And having this he will request no more.

PREVENTIVE MEDICINE IN THE CITY OF NEW YORK.

By Dr. Hermann Biggs.

Dr. Biggs acknowledged his high appreciation of the honor conferred on him by the invitation of the Council of the British Medical Association to deliver the address on "Public Medicine" at its annual meeting: but he interpreted that invitation as a tribute to the work of the Health Department of New York city with which he had been so long connected, and regarded it has a command of the Council, the selection for the subject of an address, the discussion of some measures which have more particularly distinguished the work of the New York Health Department, rather than the consideration of any general topic on public medicine. He expressed great diffidence in present-

ing an address on such a subject for the British Medical Association, representing as it does, the medical profession, and to a great extent the sanitariums of a country which has so long and justly been regarded as the birth-place and home of sanitary science. It has been the custom of sanitariums of all nations to look to England for guidance and direction in matters regarding public health, and the low mortality statistics, especially from zymotic diseases, in England, testifying in no uncertain language to the value of English sanitary methods and to the efficiency of their execution. The facts should be strongly emphasized that the advance in sanitation in Great Britain as shown by the mortality tables for nearly half a century have preceded those of any other country, and doubtless the influence of the British Medical Association has contributed to the high standard of the public health.

The speaker asked further indulgence for having devoted the greater part of his address to the procedures and methods, rather than to the consideration of private questions of public medicine. But such a discussion seemed of greater value and interest than any general subject which could furnish little specific information as to its condition and methods of sanitary work in the United States. The conditions under which sanitary work was carried out in the United States differed from those in which the sanitary authorities worked in Great Britain. For instance, in the United States there was no functional Board of Health, each State having its own Health Board and sanitary laws. It necessarily followed that throughout the United States there was no uniformity in regulation and methods. No definite statement could be made as to the condition of preventive medicine generally in America; but speaking particularly, in the rural districts and smaller towns sanitary methods were crude, while in many of the large cities there was an intelligent and progressive policy to be found equal to that of any of the cities of the old world. New York may be taken as a type of the best conditions and methods of sanitary work to be found among the greater States of the United States, and he would confine himself, therefore, to the discussion of sanitary work in New York State.

The Health Department of New York city was an entirely independent sanitary organization, not being subject even to the jurisdiction of the State Board of Health. The jurisdiction of the Board extends over the whole city at present, containing at present two millions of population, and in 1898 a smaller board increased to five members while they have jurisdiction over greater New York, a population of 3,250,000.

Ordinarily the duties of sanitary authorities relating to infectious diseases are regarded as limited to the inspection of reported cases of only a few infectious diseases; their removal to hospitals when required and the subsequent infection of the premises. In New York the state of matters connected with the scientific investigation, diagnosis, care or sanitary provision in every way of the infective diseases were regarded by the Board of Health as properly coming under its provisions. The first important departure in New York city from the older methods was made in 1892 by the establishment of a bacteriological laboratory, this being the first bacteriological laboratory established under municipal control. Originally it was destined to afford facilities for the bacteriological diagnosis of Asiatic cholera and for the investigation of questions relating to disinfection. The scope of its work soon extended to include the bacteriological diagnosis of diphtheria. The investigations of New York State health departments relating to diphtheria led to the foundation of bacteriological laboratory and made them neces-

sary to the proper conduct of sanitary work. In October, 1894, investigations in connection with the production of diphtheria anti-toxins were begun, and in December of that year a special annual appropriation ("the anti-toxin fund") of $30,500 was made by the city authorities for the prosecution of this work. On January 1st, 1895, the Health Department commenced the use of the anti-toxins produced in its own laboratories. The special anti-toxin fund made possible the establishment of a research bacteriological laboratory, devoted to the production of diphtheria anti-toxin and other bacteriological products and to the general experimental investigations in relation to infective diseases. In 1896, arrangements were completed for placing in the hands of the physicians of New York city Widal's tests for the diagnosis of typhoid fever. And recently arrangements have also been made for the administration of Pasteur's treatment for the prevention of rabies.

A special laboratory and stable are devoted to the production of bovine vaccine virus, and this is freely distributed, and vaccination is performed free of charge by the medical officers of the department. The following statistical statement of some routine work performed in the laboratory of the Health Department gives an idea of the extent of the work: During the year 1896, 25,049 cultures were examined for diphtheria bacilli; 1,856 specimens of sputum from cases of suspected tuberculosis were examined for tubercle bacilli; 16,796 phials of diphtheric anti-toxins were issued, and 918 cases of diphtheria were treated in their homes by attachees of the laboratory and 1,214 persons were immunized. Every case of contagious disease reported to the department is inspected by the medical inspectors, and the district in which it occurs and when necessary, such cases are removed to the department hospitals. Disinfection is then performed and is compulsory in every case. All infecting materials are taken to the disinfecting station for distribution and disinfection by steam. The work of inspection is carried on by a number of different corps of inspectors. This includes the district medical inspectors, the district and special vaccinators, the inspectors for the administration of diphtheria anti-toxins, the summer corps of inspectors, the medical inspectors of science, etc. There are also a number of sanitary and food inspectors who are not necessarily medical men, such as an inspector of plumbing and ventilation. The inspector of offensive trades, the inspectors of meat, fish and milk, and an inspector of mercantile establishments; these latter having in their charge the regulation as to the employment of working people in such places. Besides these there are veterinary inspectors who have the supervision of the application of the tuberculum test for the diagnosis of tuberculosis in cattle and the diagnosis of other dis-eases in cattle and horses. The method of procedure in regard to diphtheria is given in detail as follows: Knowledge of the existence of causes of diphtheria reaches the department either by direct report of the case by the attending physician or through the forwarding of the culture to the laboratory for bacteriological examination. When the case is of doubtful character, it is immediately referred to the medical inspector of the district in which the case occurs. A person lives in a tenement, lodging or boarding-house or hotel and a culture has not been previously made by the attending physician, the inspector makes in each instance a culture to confirm the diagnosis. A subsequent action of the department depends upon the result of this culture. If diphtheria bacilli are found the case is treated as one of diphtheria, if absent, the specific treatment depends upon the special conditions existing. In every in-

stance in which the case is proven to be diphtheria, at the end of ten days a second culture is made by the attending physician or the district medical inspector to determine whether the diphtheria bacilli are still present in the throat, and subsequent cultures are made at short intervals until the examination shows that organisms are no longer present. The case is then referred for disinfection, a detailed statement being left at the house by the medical inspector in charge to guide the disinfectors as to the course which shall be followed. Every case of diphtheria which comes to the knowledge of the department is recorded according to the street and number in a card index, envelopes being used in place of cards; in each envelope, representing always one case, are placed all the data relating to the first and subsequent cultures and results, and as each case is recorded, it is at the same time platted on sectional maps of New York city drawn to a scale showing every house and lot in the city. This platting is done by conventional science, so that it is possible at once to determine the grouping and distribution of diseases in different parts of the city, how many cases have occurred in any given house in the city during the last four years since this method has been introduced and when the case occurred. It is also possible in a moment, by the usual card index, to find all the information in relation to each case which the department possesses. A special corps of inspectors is assigned to the administration of antitoxin, and, on request, one of these inspectors will visit a patient in any part of the city and administer anti-toxin under the supervision of the attending physician, and in cases where the patients are too poor to have an attending physician, supervise their removal to a hospital. These inspectors are also prepared, at the request of the attending physician, to perform intubation in laryngeal diphtheria. It is the usual course where anti-toxin is administered by an inspector, to immunize all members of the family who have been exposed to the disease. Diphtheria anti-toxin has been also largely employed in institutions especially for children when diphtheria has appeared. This is the ordinary routine, and in every instance during the last two and a half years, it has been possible to quickly stamp out diphtheria in institutions by this process of immunization.

Diphtheritic antitoxin is administered by the inspectors free of charge and is furnished on request free of charge to all public institutions, and may be obtained by physicians at over one hundred pharmacies about the city where it is on sale free of charge for administration to persons who are too poor to pay for the remedy; the only conditions in the latter case being that reports of the cases treated be forwarded to the Health Department at their completion.

In the opinion of Dr. Biggs the attitude assumed by the Health Department of New York city towards pulmonary tuberculosis and the measures adopted for its prevention constitute an important feature of its work. The Health Board first began the educational campaign in relation to the causation and prevention of tuberculosis in 1889, and leaflets based on this subject presented to the Board by Dr. Biggs and associated pathologists giving the essential facts as to the nature of this disease were widely distributed. No further action was taken at that time, as investigation showed that the medical profession and the public were not prepared for more extended measures. In 1893, attention having again been called to the subject by Dr. Biggs, it was determined to institute more progressive measures for the prevention of this disease. The measures thus adopted required notification of all cases of pulmonary tuberculosis occurring in public institutions and re-

quested reports of cases occurring in the practice of private physicians; they also included arrangements for the bacteriological examination of sputum to assist in the early diagnosis of this disease; the inspection of all reported cases in tenement houses, lodging houses, hotels and boarding houses and the instruction of the patients and their families as to the nature of the disease and the means taken for its prevention; the inspection of premises in all instances where deaths were reported as due to tuberculosis, and the issuing of orders where it was deemed necessary by the owners of departments which had been occupied by consumption and vacated by death or removal, requiring that such department be thoroughly renovated by painting, papering or kalsomining before they were again occupied by other persons, and the education of the public by wider and more comprehensive methods as to the nature of tuberculosis.

Under the resolutions by virtue of of which these measures were enforced, 4,166 cases of tuberculosis were reported in 1894; 5,818 in 1895, and 8,334 in 1896. All cases reported as far as possible, except those in private houses, were visited or the premises where they lived were inspected, and in addition the premises occupied by persons dying from tuberculosis (the number of each was nearly six thousand) were inspected and such action taken as was considered possible and desirable; altogether the premises and cases thus going under observation during these three years numbered more than 35,000.

In the beginning of 1897, on the recommendation of Drs. Biggs and Pruden, the Health Board of New York city finally declared pulmonary tuberculosis to be an infectious and inoculable disease dangerous to the public health, and required the notification of all cases occurring in the city in the same way as it required all cases of small-pox, scarlet fever, diphtheria, etc. Tuberculosis, however, is not classed with the contagious diseases, but by a special section of the sanitary code intended to provide for these measures is referred to as "an infectious and inoculable disease."

At the present time there are no hospitals directly under the control of the Health Department for the isolation of cases of pulmonary tuberculosis, but it is hoped that such hospitals may be soon provided. Persons suffering from pulmonary tuberculosis should not be treated in association with other classes of cases in the medical wards of general hospitals, and are often very properly excluded from such hospitals. Moreover, experience has shown in institutions wholly devoted to the care of consumptives the general welfare of the patients is very easily fostered, the risks of fresh infection more certainly dimished and the chances for recovery more surely enhanced than in general hospitals. From the beginning of this work the officials of the Health Department have encountered in the lack of proper facilities for the cure of consumptives a great obstacle to practical success, and Dr. Biggs was convinced that the great responsibilities which rest upon sanitary authorities generally in this matter cannot be properly discharged without the establishment under their direct control of additional hospitals for the care and treatment of this disease. In the week past only the officers detailed to this work in New York did not meet with many instances in which the members of many households, numerous inmates of crowded tenement houses, employees in dusty and unventilated work-shops, and many others are dangerously exposed to the infection of victims of this disease who cannot gain admittance to the overcrowded public institutions and who reject all proffered assistance and instruction, and from ignorance or their inability to, through weakness due to the dis-

ease, scatter infectious material broadcast and thus diminish their chances for recovery and imperil the health and safety of others. In such cases sanitary statistics are futile, and in removal to hospitals consists the only effective action. The Health Department of New York city, while feeling strongly that the most important source of infection is through the dry sputum of consumptives has elaborated with great care methods for protecting the public as far as lies within its power from infection by meat and milk of tubercular animals. Since 1895, no milk has been allowed to be sold within the city without a permit from the Health Department, and before these permits are issued, information must be furnished as to the sources from which the milk is obtained, the number of animals, the character of the food supply and the sanitary conditions surrounding the dairy. There are also special regulations controlling the sale of milk and the permits may be revoked if these regulations are not complied with. All milch cows in the city are subjected to the tuberculin test, and animals found to be diseased are killed. There also exists a careful inspection of animals slaughtered for food, and of all meat sent into the city, and the carcasses of those found to be tubercular are destroyed.

Another amendment to the sanitary code recently enacted as a result of investigation of the department seeing that the dust of street cars and various public places were found to be infectious, prohibits the spitting on the floors of cars, ferry boats, etc., and requires that all companies should post notices to this effect in the public conveyances. Most beneficial effects have already resulted from the various measures instituted for the prevention of tuberculosis; not only has there been a very material decline in the number of deaths occurring from this disease but there has been a gratifying increase of knowledge and intelligence among the poorest classes of the population as to its nature. This increase of intelligence and the precautions resulting from it afford the greatest promise in the future of a persistent and still more rapid decline in the frightful mortality caused by tubercular diseases.

The method employed for recording and platting cases of diphtheria has also been used for cases of tuberculosis. Transcripts from the maps on which are platted the cases of diphtheria and tuberculosis have been prepared to show the distribution of those cases in certain wards of the city. Thus from an analyisis of the distribution of reported cases and deaths from tuberculosis in wards iv. to vi. of New York city for the years 1894, '95, '96, to March 1897, it appears that during this period only 38 per cent. of the inhabited houses of these two wards were infected with this disease, and that 50 per cent. of the cases of tuberculosis occurred in 23 per cent. of the infected houses. These constitute only 9 per cent. of all the dwelling houses in the wards. The facts, as shown by a study of these maps, argue more forcibly for the infectious and communicable character of this disease than could any words.

Early in 1897, under the authority of a special resolution of the Board estimates 150 medical school inspectors were appointed and a system of medical school inspection was begun. During three months, sixty-five school days, in which the system has been in operation there have been examined 63,812 children, and 4,183 were excluded from school for the following diseases: measles, diphtheria, scarlet fever, croup, whooping cough, mumps, contagious eye diseases, parasitic diseases of the head and body, chicken-pox and skin diseases. This system of school inspection has thus far given the most satisfactory results and promises still more for the future.

The educational work of the Health

Department constitutes a very important feature of its usefulness. It has been the custom of the department for some years past to issue from time to time circulars of information of the various topics, and especially those connected with infectious diseases; their diagnosis, treatment or management.

Some of these circulars are popular in character, very large editions being published. Fifty thousand or more at a time are distributed wholly among the tenement house population. These circulars are also published by the various medical journals and by the daily papers in the city and these gain a very wide circulation. They are also sent by mail or delivered by message to the physicians of the city. Aside from the circulars described numerous scientific bulletins have been issued from the bacteriological laboratories detailing the results of original investigations in connection with infectious diseases, and these bulletins are widely distributed among the profession of New York city. The importance of this educational work cannot be over-estimated. Its value is incalculable in disseminating popular and scientific information in accord with the results of the latest studies in infectious diseases, and there have been suddenly exhibited in New York the most gratifying indications of the influence of the information thus distributed on both the general public and the medical profession. More than this, the circulars keep constantly before the medical profession and the laity the work, the duties and the functions of the Health Department as related to the people and the profession. The criticism has often been made, particularly in Europe and in the earlier work of the New York city Health Department, that the methods proposed were impracticable.

The results have shown that what has been described is not something which it is proposed to do, but a statement of what has been done and work, as briefly outlined in some of its phases, is to be considered only as introductory. It is the purpose of the health board to establish a supervision of all infectious diseases along the lines which have thus far been developed in relation to tuberculosis and diphtheria as rapidly as the scientific knowledge at command will make such a case possible.

The final test of the efficiency of any scheme of sanitary control of the healthfulness of any locality, is found in the mortality statistics considered in relation to the causes of disease and death. Various factors and conditions, however, may influence this, such as the density of population, nationality of inhabitants, and physical formation. The conditions in New York city are in many respects very favorable. The average density of population of the larger part of New York, that is on Manhattan Island, is greater than that of any other city. Within sanitary district A of ward 11, there are more than eight hundred to the acre. Ward 10 has 640 to the acre; ward 13, 540; ward 17, 430. The only locality approaching these wards in density of population is a small court in Paris where the population is 485 and the White Chapel district in London has a population of about three hundred to the acre, and 365 in Bethnal Green. The density and cosmopolitan character of the population of New York renders the sanitary problems presented extremly difficult of solution. This is apparently due to the physical formation of Manhattan Island which is long and very narrow. Three-fourths of the population live in tenement houses which are five or six or more stories high and contain from two to four or more families on each floor. These facts shou'd be kept in mind in considering the mortality statistics of New York as compared with the larger cities of Great Britain. With that before us, the diminution in the present death rate is most significant.

A comparison of the mean death rate for decennial periods in New

York city since 1834, shows that there was an increase in the first period ending in 1863, and that since that date there has been a continuous and very heavy decline in the rate, especially marked in the most recent years. Mortality in New York arose to such a point that the inhabitants became alarmed and in 1866 the Health Department was organized. In the decennial period ending in 1843, the mean death rate was 28.03. For the period ending in 1853, it had risen to 33.81; for the period ending 1863, 33.94. Since that time it has declined from 31 11 for the decennial period ending in 1873 to 26.87 for the period ending in 1883; to 26.76 for the period ending in 1894; while in the year 1894, it was 22.76; in 1895, 22.10; in 1896, 21.54 and for the first half of 1897, 19.60. The population has meanwhile increased from 312,000 in 1890, to an estimated population of 1,999,000 on July 1st, 1897. The mortality rate is normally higher for the first half than the second half and it is therefore probable that the rate for 1897 will be a fraction over 19 or a dimunition of 25 per cent. on the death rate for the decennial period ending in 1893.

A search for the causes of the diminished mortality from all causes shows that the first reduction has been in the zymotic death rate, including diarrhœal diseases of children under five years and there has been a steady and important decline in the death rate under five years. Investigation further shows that special reduction of mortality from diphtheria and croup, amounting to nearly 40 per cent. has occurred since the introduction of diphtheria antitoxin with the beginning of 1895. This reduction has taken place in spite of an increase in the number of reported cases of this disease. Up to the beginning of 1895 there had been a steady increase for some years in the mortality from diphtheria and croup, and for the year 1894, the death rate was higher than that for any other single disease, excepting tuberculosis and pneumonia. Pneumonia really included a number of different affections. The combined death rate from measles, scarlet fever, diphtheria, croup, small-pox and typhoid fever has been reduced exactly one-half in ten years. The rate of 1896 for this disease being 1.64 per thousand population as contrasted with 3.26 for 1887. For 1897 it will apparently be still lower.

The government of the United States is democratic, but the scientific measures adopted are sometimes autocratic and the functions performed by the sanitary authorities personal in character. We are prepared, when necessary, to introduce and enforce and the people are ready to accept measures which may seem radical and arbitrary if they were not devised for the popular good and evidently beneficent in effect, even among the most ignorant of our foreign born population. Few, if any, indications of opposition are exhibited to the exercises of arbitrary power in sanitary matters. The popular press will approve and the people are prepared to support and sustain any intelligent procedures which are evidently directed to the preservation of the public health. The belief is never raised in any class, however ignorant, with the institutions or enforcements of any sanitary measures as primarily destined for the restriction of the individual freedom. There is nowhere to be found any jealousy of law or government as such. It is therefore possible to operate measures more arbitrary in many respects than could be adopted in most other countries, simply because our government is democratic. This gives the key-note to the attitude of the sanitary authorities of New York. It may be truly said there is no great city today which in the broad sense is cleaner and healthier than New York; by clean is meant the purity of the atmosphere, the cleanliness of the

streets, the abundance and purity of the water supply and efficiency of the sewerage system. No city is healthier, considering all the sanitary factors of the situation, such as the size and density of the population. The variety of national inhabitants, and the character of the climate, etc. Nowhere can there be a fuller recognition than in the United States of England's high standard of excellence in pubiic medicine or a more sensible appreciation of her vast contributions to the advancement of sanitary science. But she must look well to her laurels if her cities are to be kept cleaner than the great cities of the United States or if her urban population is to be happier than the same class on this side of the Atlantic.

SURGICAL SCIENCE SECTION.

An address by Mr. Christopher Heath was given on the "Teaching of Surgery," which follows.

In taking the chair at this, the opening meeting of the Section of Surgery allow me to express my sense of the high honor I enjoy in presiding here to-day. It is no small matter for an English surgeon to be called upon to preside over colleagues of such eminence as are represented by the Vice-Presidents of the Surgical Section, and I beg leave to tender to them, and to the eminent surgeon who is President of the Association, my thanks for having selected me for so distinguished a position. As an English surgeon it gives me the greatest pleasure to meet the members of the profession in the Canadian portion of the Greater Britain, and also those medical brethren from the United States who have been good enough to attend this meeting. I trust that our deliberations will not merely advance the science of surgery, but will cement those bonds of fellowship between the members of a united profession, which our common Anglo-Saxon origin should foster and maintain.

In addition to the various papers which will be read in the Surgical Section, it has been thought desirable that there shall be held two discussions on questions of surgical interest; and after considerable deliberation it has been decided that these subjects shall be: (1) Appendicitis and its Surgical Treatment; and (2) the Treatment of Cancer of the Rectum, with special reference to the High Operation. The Honorary Secretaries have arranged with certain eminent surgeons to introduce these subjects, one this morning and the other to-morrow, and I trust that the discussions will be well supported.

Nothing, I venture to think, is more remarkable than the recent progress of abdominal surgery. Twelve years ago I was engaged in editing a "Dictionary of Practical Surgery," and neither appendicitis nor the operation for removal of the rectum, with which Kraske's name is connected, was mentioned in it, although I had the assistance of the leading London hospital surgeons. Kraske's original paper, I may mention was published in 1885, and is referred to in Ball's work on the rectum, published in 1887, and in most surgical works since that date. The subject of appendicitis, so far as British surgery goes, dates from a paper read before the Royal Medical and Chirurgical Society in Februrry, 1888, by Mr. Frederick Treves, though the title of it was "Relapsing Typhlitis treated by Operation." In August of the same year Mr. Treves opened a discussion on the Surgical Treatment of Thyphlitis, at the meeting of the British Medical Association at Leeds and subsequently published his address with additions and alterations in the form of a monograph, entitled "The Surgical Treatment of Perityphlitis." I do not know to whom we are indebted for the hybrid term "appendicitis," but it did not appear in

the index to the *British Medical Journal* before 1891.

But it is not merely in these two departments that progress has been made. The surgery of the kidney and of the liver has advanced *pari passu* with that of the hollow vescera, and the labours of Morris and Robson in England, and of Keen and others on this side of the Atlantic, have done much for the relief of suffering and the prolongation of life.

Looking back over forty years of professional life, nothing surprises me more than the change which has come over the treatment of calculus. In my student days, to see Fergusson cut for stone by the lateral method was to witness an operation as near perfection as was conceivable, and the dexterity and rapidity with which the calculus was extracted were only marred by the frequency with which death from septic causes spoiled the skill of the surgeon. To have one's first lithotomy was an event in the life of the young surgeon, and every now and then a reputation was spoiled by some *contretemps* in the public performance of the operation. Later, I was the frequent witness of my colleague Henry Thompson's skill in using the lithotrite to break up the calculus in a series of "sittings." Then came "litholapaxy," or rapid lithotrity, which we owe to Biglow, the great American surgeon; and, lastly, that recurrence to the old high or suprapubic operation which was due to the Scandinavian surgeon, Petersen. Hence the student of to-day rarely, if ever, sees a perineal lithotomy, and as a consequence his interest in the anatomy of the parts concerned in the operation has greatly diminished. Possibly the surgeons of the last generation laid too much stress upon anatomical details, but it is somewhat remarkable to find how little anatomy seems to serve for practice in the present day.

I am told by those who are teaching anatomy now that it is difficult to get the student to take the trouble to make a neat dissection, because he can find in the various museums, and notably at the College of Surgeons of England, such beautiful preparations in spirit that he prefers to study from them or from pictures rather than labor to get out the details for himself. If this is so I can only regret that the present race of students is so short-sighted, for without a working knowledge of human anatomy I can conceive of no progress in surgery.

But I regret to find that in Great Britain at least, the teaching of anatomy is gradually getting more and into the hands of professors who are anatomists but not surgeons, and that their tendency is to lay stress upon transcendental details rather than surgical relations. When these gentlemen happen to become examiners this tendency to specialize becomes very marked, and as this applies equally to the teachers or physiology and chemistry, the unfortunate medical student becomes the victim of science (falsely so called) and sometimes develops into that marvellous being a London B.Sc.

But seriously, are we not overdoing the scientific teaching of the man who has after all to get his living as a practitioner of medicine, surgery and midwifery? When the medical curriculum was lengthened by a year it was hoped that the additional time would be devoted to clinical work, but I fear that this is by no means always the case, for it is not uncommon for the student to take three years in passing his primary examinations, with the result that but two remain for the study of medicine and surgery. When I became a student of medicine I took to heart the advice of my teacher of physiology, William Bowman, and never allowed a day to pass without visiting the hospital; and although as a lad of sixteen I failed of course to appreciate the importance of all that I saw, yet I saw it, and I can carry my mind back now to cases seen and lessons learnt in the early fifties which are of service to me at

the present time. But the student is practically forbidden to enter the wards now until he has satisfied the examiners in anatomy and physiology which he may or may not do in two years, and then there are but three years left for him to study *totam rem medicam*.

Far be it from me to decry the modern methods of teaching medicine in the wards of our hospitals. I believe that the care taken to induct every student into the mysteries of auscultation and percussion are beyond praise; and if with some teachers, treatment is regarded as of secondary importance, at least the student has the opportunity of studying the *vis medicatrix naturæ* untrammelled under one teacher, and of watching the effects of every new drug upon the human system under another. But all this takes time, and so also the elaborate manipulations of the gynæcological department, the researches of the pathological professor and all the other teachings of the third and fourth years. And where, then, does surgery come in? Why, I consider myself fortunate if I can secure the regular attendance of candidates for a surgical deploma for the last three months, when their names are put on my list, and I subject them to rigid surgical cross-examination. But if I venture to refer to an illustrative case of last year, I find that no one present saw it or even heard of it, though at the time the whole surgical staff may have been in consultation upon it. How, I ask, is it possible for the student to see the serious surgical ailments which are not very common, such as aneurysm, tumours of bone, tetanus, etc., if his attendance in the surgical wards is limited to a few months?

And yet there has never been a time of greater activity in operative surgery, not only among hospital surgeons, but among general practitioners, who, thanks to anæsthetics and antiseptics, undertake operations of a magnitude which the hospital surgeon of the last generation would have hardly attempted. How are we to explain the apparent contradiction? In the first place, I am afraid we must allow that a great many mistakes in diagnosis are made, or rather that too often no attempt at diagnosis is made, but that an operation is undertaken to "clear up the case." That it generally does no doubt, but not always to the benefit of the patient. Then we must allow that, with unlimited time for the anæsthetic, the least skillful surgeon may hope to bring an operation to a conclusion more or less satisfactory to himself, and, if he operates under fairly favorable circumstances, for his patient also. Lastly comes the enormously increased opportunity for the publication of a success at on of the numerous mutual admiration societies and in one of the medical journals of the day. Can we wonder, then, that young surgeons whose stock-in-trade of professional knowledge is of the smallest, blossom rapidly into operating surgeons in some special department and try not unsuccessfully to prove that all is fish which comes to their net?

Still, gentlemen, the great foundations of the art and science of surgery remain undisturbed. Without a knowledge of anatomy, of pathology and histology progress in surgery is impossible, and it is for those who hold the important positions of teachers in our great medical schools to insist upon a foundation of scientific and practical training being given to our students if they are to become the successful practitioners of the future. The growing tendency of the non-medical teachers of collateral science to regard their particular subject as the one most essential for the medical student must be restrained, and the preliminiary period of medical study must be cleared of many obstructions if the student is to have the necessary time to devote to the thorough study

of those strictly medical subjects which will fit him to be a sound, practical, and at the same time scientific physician and surgeon.

Dr. Jas. Bell, of Montreal, and Dr. C. B. Ball, of Dublin, opened a discussion upon operative treatment of high cancer of the rectum.

Dr. Bell said that the subject had received but scanty attention up to the year 1885, when Kraske made known the results of his investigations. When in an early stage the thorough removal of all the cancerous mass with the enlarged glands offered as good a hope of cure as in similar operations upon the breast.

Operation was useless after the general involvement of the pelvic structures. The diagnosis was only made after there had been some ulceration and hæmorrhage. Even in advanced cases no tumour can be felt in some cases. Early digital examination of the rectum would avoid such delay. The author divided the cases into the following three classes: (1) where the disease was limited to the gut itself and the whole mass can be removed readily; (2) where there is some invasion of the sacral glands which make operation of doubtful value. Even if recurrence takes place in this class after operation, the life of the patient is prolonged and there is often considerable increase in weight; (3) where the disease has extensively involved the surrounding pelvic structures and metastases have formed. Here operation is contra-indicated. A colotomy might be performed, but merely as a palliative measure.

Dr. Bell strongly favored the osteoplastic operation as advocated by Kraske by replacing the bone. In some cases he found it advisable to remove the left lower portion of the sacrum. Preliminary colotomy in most cases was necessary.

Dr. Ball, of Dublin, advocated the removal of a triangular portion of the sacrum in the place of the osteoplastic operation, as by this method the danger of infection was lessened. He had never seen a case where the upper limit of growth could not be reached without difficulty.

Instead of the preliminary colotom, he advocated free purgation for several days previous to operation with copious enemata, the administration of an opiate the evening before operation and thorough washing out of the bowel immediately before operation.

Dr. W. W. Kerr, of Philadelphia, very ably discussed the subject of both papers.

Dr. John Ashurst, of Philadelphia, was not very enthusiastic over these operations, but of late he had somewhat modified his views. He advocated the preliminary colotomy and the resection of a portion of the sacrum.

The President then read a communication on the subject from Dr. Kraske.

Mr. B. Roth, of London, then read his paper on "One thousand cases of lateral curvature treated by posture and exercise." He advocated muscular exercise scientifically carried out. He had discarded appliances from the very first day of treatment, which extended over three months, during which patient made seventy-two visits. Much benefit was derived in all these cases and many were cured. He did not attempt to improve those cases having osseous deformity. Pain was a marked symptom in about one-half of his cases, and was in many of severe character.

Dr. Ward Cousins, of Southsea, read a paper on "The operative treatment of organic stricture of the uretha." He discouraged the use of severe splitting operations and strongly advocoted a gradual dilatation. He exhibited instruments which he had devised for the purpose.

Dr. Spanton, of Hanley, read a paper on "Two cases of meningocele

successfully operated upon." No outward symptoms had occurred since operation and both are doing well.

Dr. Curtis, of New York, read a paper on "A case of bilharzia hæmatobia." Through mistaken diagnosis the case had been operated upon successfully with the cessation of hæmaturia.

"Gunshot Wounds of the Spinal Cord." Dr. Peters, Toronto, read a paper with this title. It had been shown that the mortality of such lesions was caused by shock, hæmorrhage and septic processes; the factor most largely determining the rate of mortality being the proximity of the cord lesion to the brain. The prognosis was more favorable, the further the wound was from the medulla. Cases had been reported where individuals after complete transverse lesions, had survived as long as twenty-six years. The two great determining causes of death were, inflammation of bladder and bed sores. The immunity of women from renal disease where paraplegia was present, led the author to suggest that the median cystotomy might be a good practice in such cases. The doctor reported a case in which a woman had been shot twice, one of the bullets entering into the left of the eighth dorsal spine; passed through the corresponding lamina and lodged in the ninth vertibræ. Post-mortem showed that the bullet had perforated the membranes behind, crushed through the cord, carrying fragments of bone with it. Operation was not decided on because paralysis of motion and sensation was complete and instantaneous; there was paralysis of the bladder and of the bowel; and complete absence of reflexes below the seat of lesion. The wounds healed without suppuration. Skin reflexes returned exaggerated the third week. Bed sores formed after which there was some febrile reaction. Spasmodic movements of the legs were no doubt a prominent factor in producing the condition. The bladder was washed out. The bed sores extended and abscesses formed, the temperature rising high. The flexors of the lower limbs contracted and curved the patient up in bed. Patient wasted and began to suffer from amyloid disease. Later a pathological dislocation of the right hip occurred. Patient died 263 days after.

The post-mortem showed well-marked amyloid disease; adhesions of the right pleura with recent lymph about to break down; inflamed bladder and rectum, and sago spleen. To the extent of one and a half inches, the cord had completely disappeared and a degenerating softness had extended upward one and a half inches, the gray matter being degenerated to a much greater extent than the white.

The doctor then discussed, among other interesting points in the case, the fact that the deep reflexes were entirely lost and never returned while the superficial reflexes, though absent at first, returned in three weeks and became so greatly reduced as to be a prominent factor in the formation of bed sores on the hips.

"Dislocation of the Kidney." This was the title of a paper by J. F. W. Ross, of Toronto. Dislocation of the kidney should be distinguished from movable or misplaced kidney. This is a rare affection, and not easily recognized. He saw a lady some time ago in consultation, the wife of a physician, fifty-three years of age, and the mother of several children. On October 23rd she was attacked with a sudden pain in right hypochondrium, which increased in severity. She vomited occasionally, chills and slight fever was present. On examination a small tumor, the size of a walnut, was found in the abdomen, about the point of the tenth rib. It seemed attached to the liver, and moved with respiration. She complained of a dragging sensation in the region of the right kidney, and a frequent desire to urinate. The tumor was not sensitive to pressure,

but when pressure was made from without inwards more distress was caused than when it was pressed from within outwards.

The history showed that the patient had been subject to similar attacks for twelve years. She learned that on assuming the recumbent position the pain would almost instantly vanish. Later in the disease the pain would not leave until after vomiting occurred. Sometime after this the tumor was discovered that disappeared on pressure with a gurgling sensation, followed by sudden complete relief of the pain. Several physicians saw the case, examined the tumor when down, and felt the gurgling when it receded.

About ten years ago pus was found in the urine at intervals and this was supposed to be due to pyetitis. Just prior to the last attack incipient cataracts had been discovered in both eyes. As a general rule the tumor would vanish easily on pressure. Often the patient, when out riding, would lean forward and press on the tumor and reduce it.

When at home she would lie down, press the tumor back and immediately resume her duties. If the tumor was allowed to remain down for any length of time it would then be very difficult to reduce it, and the reduction would be followed by chills, fever, and sometimes by night sweats for several nights.

These attacks would sometimes come on almost every day when the patient was in otherwise perfect health, or an interval of many weeks might intervene between the attacks. Her husband thinks she must have had a thousand of these attacks, severe and light. During the last seizure when I saw her the tumor remained irreducible, the pain was very severe, and vomiting occurred frequently. After about twenty-four hours she had chills and fever at times. Temperature rose to 104; the patient looked very ill. No positive diagnosis could be made. The general opinion was that she was suffering from some obstruction of the cystic duct of the gall bladder. Exploratory operation was advised and refused at first, but after six days of suffering the operation was asked for and performed. He made his incision over the gall bladder, which was normal, but pressed forward and empty, and the mass felt before operation was found to be the right kidney pushed up under the ribs displacing the lower portion of the liver, which was cystic as was also the kidney. The renal cyst contained seven ounces of urine. This was evacuated, a drainage tube inserted and the opening in the kidney stitched to the wound in the abdomen. Iodoform gauze was packed around to prevent extravasation of urine into the abdominal cavity. Patient made a good recovery and went home four weeks after operation. For six weeks there was no return of the trouble, but in two or three days after getting up the kidney became distended again and could be felt distinctly through the abdominal walls. After this she had two other slight attacks, but when last heard from there had been no attack for eleven weeks.

There is still some pus in the urine. He would have preferred nephrectomy to nephrotomy, but this was refused. These conditions were considered in making the diagnosis, namely, stone in the cystic duct and sudden enlargement of the gall-bladder. Some rare form of hernia of the intestine or dislocated kidney. This patient was suffering from a very severe form of angular curvature of the spine producing great prominence of the lumbar vertebræ, so that they crowded the intestines into the loins and away from the median line. The edge of the costal cartilage was as a consequence approximated to the anterior protrusion of the spine, and through this opening the kidney slipped. A movable kidney is frequently caught in this position when the patient stoops down even when there is no deformity of the spine.

In his experience displacement of

the kidney had very serious effects on the renal tissue. Renal tissue is very prone to become cystic, and as the ureter is collapsible, a slight movement of the kidney may produce a condition akin to stricture. He therefore thinks that if the operation of nephrorraphy can be relied on to keep the kidney in situ, and if the operation can be performed without the placing of any permanent structure that is liable to produce renal irritation then it is certainly indicated in every case of movable kidney.

Dr. McGraw, of Detroit, then reported a very singular case of intussusception of the vermiform appendix and cæcum which he thought threw much light on the pathology of intussusception. A boy seven years old was attacked early in June, 1896, with cholera morbus. His convalescence from this attack was interrupted by paroxysms of pain which recurred every few days, otherwise he seemed quite well, as there was at these times neither fever nor digestive disturbance. Daily normal evacuations of the bowels occurred, rarely containing a little blood and mucus. This condition lasted four months during which many physicians made different diagnoses. The attacks of pain had by this time become agonizing and very large doses of morphine were necessary to give relief. He referred the pain to the epigastric region. In the intervals nothing abnormal could be detected in the abdomen or rectum by palpation, there was no hardiness, tenderness nor tumefaction. His tongue was clean and his appetite good. An exact diagnosis was impossible. The speaker said he operated on him in October, more than four months after the beginning of his illness. Immediately on opening the peritoneal cavity the transverse color presented itself, very red, highly inflamed and coated with lymph. The meso-colon of the ascending colon was so long that it could be drawn out of the opening above the navel. The real pathologic focus was found in the cæcum. The appendix and cæcum were of the fœtal type, unduly long, and the appendix was given off from the end. The ilium was not included in the intussusception, neither was the ilio-cæcal orifice at all obstructed. The speaker said he thought it better surgery to remove the invaginated portion rather than to attempt to reduce it as he felt that from the diseased and weakened condition of the bowel from the long duration would leave a great tendency to recurrence. The coats of the bowel had become much thickened from the irritation. The invaginated part was removed and the cut ends of the bowel united by a double row of catgut sutures. The child made a good recovery, and had no more attacks of pain and gained steadily in health and strength.

The speaker then showed the specimen of the excised portion of the bowel, and called attention to some of the important facts which had been but cursorily mentioned in the history. There were no adhesions. The invagination occurred at the end of the cæcum not in its continuity. The absence of obstruction of the bowel was an unusual feature. What rendered this case almost unique was the fact that the appendix and cæcum had been invaginated into the colon with implication of the ilium. There was not another similar case reported in the literature on the subject.

Dr. F. J. Shepherd, Montreal, reported a case of the successful removal of six and a half feet of intestine, with a large abdominal fibro-myxoma of the mesentery, from a young man aged 28. The shock of the operation was very severe, but the patient made a good recovery, and was presented to the members of the section in excellent health.

Dr. Tobias Nunez, of Mexico, read a paper on the "Diagnosis and Treatment of Penetrating Wounds of the Abdominal Cavity." He called attention to the difficulty of ascertaining

the extent of wounds of this sort. The two great dangers to be feared were peritonitis and internal hæmorrhage. He advised treating expectantly, but the surgeon should be ready to do laparatomy at any moment.

"Personal Observation on the Surgery of the Bile Ducts." A paper thus entitled was read by Alexander Ferguson, of Chicago. He pointed out how during the last few years, the treatment for stone in the bile ducts and gall-bladder had progressed. They were clearly surgical cases. Operation should be done as soon as the diagnosis was established. He had dealt personally with 46 cases, which were made up of flexion of the gall-bladder, dropsy of the gall-bladder, empyæma of the gall-bladder, general cholynitis with hepatic abscess, stone in the gall-bladder and cystic duct, stone in the gall-bladder, cystic and hepatic ducts, stone in the cystic duct alone, stone in the common duct alone, stone in the hepatic, stone in the common and hepatic ducts, stone in the cystic and hepatic ducts, stone in the cystic and common ducts, rupture of the gall-bladder, laceration of the gall-bladder, fistula bladder. More prominent clinical features in each of these cases was then given by the essayist. In two cases of flexion, the colic and tenderness were noted. The first case was complicated with tongue-like lobes of the liver, which might have had something to do with displacing the gall-bladder backward and downward. In the second case the patient suffered from biliary colic six years. During the attacks, a tumor appeared, which disappeared as the suffering subsided. He performed cholecystotomy. An easy recovery followed. In one of his cases of dropsy, the diagnosis was complicated with that of floating kidney. In all cases the cystic duct was obstructed—by calculi in three and by fibrous structures in the fourth. In the cases of empyæma, there were rigors and fever. In one case the temperature was 104.2. A tumor was present and patient was so weak that an anæsthetic could not be given. The operation was given under cocaine, and pus-like bile and calculi allowed to escape. In one of the other cases patient had suffered from biliary colic five years. The bladder was found contracted, containing several gall-stones, and the cystic duct contained calculi, which were removed. After a few weeks patient became very ill again. Had a recurrence of symptoms with a fatal termination. *Post mortem* showed marked inflammation of the ducts and multiple abscesses in the liver. There was primary cancer of the gall-bladder in two cases treated unsuccessfully. The essayist showed a number of well-marked drawings, illustrating the above conditions. He described the technique he followed in these cases, and presented several instruments which had come in handy in the progress of the operation. One was a long small scoop which he used to introduce into the duct to remove impacted stones. He showed a small ball-nozzle syringe with which, when filled with water and introduced into the mouth of the common duct, by pressure, he was able to tell whethe that duct was patulous or not, the water escaping into the duodenum if ened.

Dr. A. B. Atherton, of Fredricton, New Brunswick, reported a case of intestinal obstruction, caused by strangulation of the loop of ilium through an opening in the mesentery with Meckel's diverticulum. The patient had a small umbilical hernia and had numerous attacks of cramps attended with diarrhœa. This had become more serious of late. The essayist was called in consultation in one of these attacks. The temperature was slightly elevated. There tympanites and a good deal of pain and tenderness to the right and below the umbilicus. Suspecting appendicitis, he opened the abdomen, under the light of a lamp, his only assistant giving the anæsthetic. The appendix was removed on account of

some adhesions surrounding it. He did not consider this a sufficient cause for the symptoms so a search was instituted through another opening and near the navel. Here Meckel's diverticulum distended in the shape of a pear, was partly gangerous and contained masses of fæces. He experienced some difficulty in withdrawing it from the abdomen. After further search the abdomen was closed quickly, the patient being in a very weak state. Within thirty hours the patient died. After operation temperature went up to 101 but subsided to normal. Pulse was very rapid. The patient had a pinched look and finally became delirious. Autopsy revealed the condition indicated in the title.

Mr. Christopher Heath commended Dr. Atherton on the management of his case.

Dr. W. W. Keen thought that much good came from the reporting of these unsuccessful cases. The essayist had made a mistake, but it was a very pardonable one.

Mr. Jordan Lloyd, of Birmingham, gave a conversational address on stone in the ureter and its treatment, which was well received. He said he was struck many times about ten years ago with the absence of stone in the kidney when all symptoms pointed to that condition. He could cite cases where the kidney had been removed and then no stone discovered. He had found that the symptoms in many such cases were due to stone in the ureter. He had had five or six such cases, which he had treated successfully. What made him work at the subject was that on one occasion he had cut for stone in the kidney, found none and in six hours the calculus was passed. One symptom of great importance, he thought was obtained by giving the patient a fierce prod over the tender spot. Then whether this was over the kidney, ureter, or bladder, the patient would experience a stabbing pain. This with the paroxysmal nephralgia and hæmaturia, pointed strongly to ureteral involvement. If the stone were in the lower part of the ureter, it might be palpated by rectum. If between the neck of the bladder and the pelvic brim, anterior exploratory incision, if the symptom was pronounced, was allowable. In many of these cases where there was complete blockage of the ureter, patient suffered from "waterlog" symptoms which were marked by moist skin, very rapid pulse, subnormal temperature, abdominal distension. To get at the stone in the lower part of the ureter, he would perform super-pubic cystotomy, opening the bladder. If in the middle section of the ureter he would, after establishing a diagnosis, make a lateral incision and would get at the stone without entering the peritoneum. If in the upper portion of the ureter, he would perform the ordinary lumbar incision, Usually the stone would be found in the lower three inches of the ureter.

Of course calculi in the bladder could quite readily be negatived.

Dr. W. W. Keen related a case simulating appendicitis in which he had operated. Found nothing wrong with the appendix but did not think of examining the ureter until the following day. Ten months after he removed a stone from the bladder. He was particularly pleased with Mr. Lloyd's paper.

Dr. Shepherd and Mr. Heath also complimented Mr. Lloyd on his careful study of this department in surgery.

"Seven Cases of Appendicitis Complicating Salpingitis," was the title of a paper by Dr. A. L. Smith. Since preparing his paper he had seen an eighth case. Severe pain had been felt on the right side, the right tube which was pregnant was adherent to the left side and the appendix was there too. Whether the appendicitis caused the salpingitis or *vice versa* he was not prepared to say. He thought perhaps the appendix floating around in the abdomen sometimes

came in contact with an infected tube and in that way became inflamed. His method was to cut the appendix off flush with the bowel and then invaginate so as to bring the peritoneal surfaces together.

The paper was discussed by Dr. Marcy, of Boston, and Dr. Ferguson of Chicago.

Dr. Tait McKenzie presented a paper with the title, "An accurate measurement of spinal curvature with a description of new instruments for the same."

He said that the first difficulty that the friends and the surgeons had in dealing with a case of scoliosis was to obtain definite data on which to base diagnosis and prognosis. A fixed certain point from which the progress of the case could be followed; a standard by which the course of treatment could be tested with a reasonable degree of accuracy. What was wanted was some quick and accurate way of getting out of difficulty in the height of the acromia, of the points of the scapulæ. Some graphic record of the deviation of the spinous processes from the straight line, of the difference in outline and level of the hips and iliac crest, and again the record would not be complete unless the rotation of the vertabræ was shown both in the dorsal and lumbar region. In angular curvature, the nature and extent of the kyphosis must be displayed to give a clinical picture of the case. Photography was expensive and the pictures were often indistinct. The essayist described a number of pantographs of which he considered among the best was Roth's. The essayist then presented the instrument he had devised. In its construction an attempt had been made to fulfill all the conditions required. It consisted of a fixed horizontal iron stand into which a rigid rod was screwed firmly. To this rod two arms were attached by collars which might be moved up and down and clamped by thumpscrews. The lower arm passes behind the patient and clamps the hips, preventing any sidewise movement. The upper arm passes in front of the patient and fixes the shoulders. To the collar of the upper arm a pantograph is screwed, set so as to make the tracing reduce to one in four. The paper which was stretched over this place and held up by clasps behind, was ruled into one-eighth inch squares, hence a line passing vertically through eight squares would represent a distance of four inches by the pointer. It was very accurate and convenient to use a reversible pointer, the short arm being used for the spine and scapulæ, and the longer for the outline of the shoulder and hips. In the taking across sections to show the rotatio the patient stands bent over and the end of the pantograph follows the outline in the back at any desired level. The doctor had a patient present and showed how to make the tracing.

MEDICAL SECTION.

The President (Dr. Stephen Mackenzie) took the chair and delivered his inaugural address, selecting as his subject "The Influences which have Determined the Progress of Medicine During the Preceding Two and a Half Centuries." Probably the greatest influence in the modern progress of medicine was the perfecting of the microscope, which had led to a vastly increased knowledge of the minute structure of the tissues of the body and had created a new department of science, viz., bacteriology. The clinical thermometer, electricity, the ophthalmoscope, the laryngoscope, the sphygmograph, the cardiograph, the arteriometer and the sphygmometer, have all contributed to the general advance. The discovery of auscultation by Laennec in 1816 had given a great impetus to the study of exact medicine and the diagnosis of diseases of the chest has now reached

a degree of precision unequalled in any other department of practical medicine. The discovery of vaccination by Jenner had exercised a great influence upon medical science, and its direct results were only now beginning to be fully utilized. Therapeutical progress was necessarily dependent upon a more exact knowledge of the nature of disease. The progress of anatomy, physiology, chemistry, physics, morbid anatomy, pathology, therapeutics and preventive medicine has influenced our whole mode of thought and made us exact and precise in our observations and investigations of disease. When we are taunted with the assertion that medicine is not a science we can reply that medicine utilises the knowledge gained in every branch of science.

"On Some Forms of Insomnia." In discussing this subject Dr. Henry Barnes, ex-president of the association, said: In considering the treatment of insomnia the first question we should, I think, decide is this: Is the patient really suffering from want of sleep? I am accustomed to tell patients when importuned for sleeping draughts, that an hour of natural sleep is worth four or five times that amount of drug sleep, and will do them much more good. The absence of sleep is sometimes very distressing and very trying both to the patient and his attendants, but we should be on our guard against accepting the patients' statements, as they often say the amount of sleep which they obtain is much smaller than what those in a position to judge from actual observation know has been obtained.

Patients are very apt to fall into the habit of taking sleeping draughts without due necessity. It has happened to me to have my attention called to the frequency with which patients were indulging themselves in sleeping draughts or powders.

The morphia habit, the chloral habit or the sulphonal habit is easily set up but not so easily cured.

In England, where patent medicines containing opium are easily obtained, I have found patients indulging themselves in chlorodyne in extraordinary quantities. I had one patient who informed me that her usual dose was a four or six penny bottle of chlorodyne. This contains 2 ozs. and 2 drs. of chlorodyne. We should be chary in prescribing hypnotics, and satisfy ourselves that they are really demanded. Some people can do with less sleep than others, and the absence of sleep produces more deleterious effects in some patients than in others. How much sleep each one should have is a point which cannot be laid down. Time spent in real sleep cannot be said to be wasted but this cannot be said of time spent in drug sleep. Sleep is a wonderful restorer of nervous energy, but it must be genuine sleep to do good. A learned English jurist's division of the day was as follows:

"Six hours in sleep; in law's grave study six;
Four spent in prayer, the rest on nature fix."

Sleep may be induced in two ways: (1) We may lessen the flow of blood to the brain. or (2) we may lessen the functional activity of the brain cells. The former object may be accomplished by removing anything which tends to force the flow of blood forcibly through the brain, by insuring a sufficient degree of warmth and bodily comfort, by a warm bath at bedtime and a strict attention to the general health. There is one cause of insomnia which is, I think, insufficiently recognized. It is very common in gouty subjects. We all know how sleep is sometimes suddenly interrupted in the early hours of morning by the acute gouty paroxysm. A simpler form of sleeplessness is often dependent on acid or fermentative dyspepsia. According to Duckworth, Cullen was the first to call attention to this. Cullen said: "Persons who labor under a weakness of the stomach, as I have done for a number of years

past, know that certain foods without their being conscious of it prevent their sleeping. I have been awakened a hundred times at two o'clock in the morning when I did not feel any particular impression, but I know that I had been awakened by an irregular operation of that organ, and I have then recollected what I took at dinner, which was the cause of it." Murchison has described a form of sleeplessness which he attributed to hepatic derangement, inducing lithæmia and other forms of gout. The sleeplessness comes on suddenly. The patient goes to bed apparently quite well and goes to sleep as usual. Suddenly sleep is interrupted, and there is sometimes nausea and stomach discomfort, lasting two or three hours. I am inclined to think insomnia has a gouty origin more frequently than is generally supposed. In such cases a draught of hot water or potass-water, with sal-volatile gives some relief, but attention to diet, fresh air, abundant exercise are very necessary to prevent recurrence. Rhubarb and soda or Gregory's powder at bed-time are very useful. Insomnia also sometimes depends, especially in elderly people, on atheroma of the arteries, whereby they lose their contractile power, and they are unable to regulate the flow of blood to the brain. In these cases iodide of potass is useful, and the addition of a few grains of bromide helps to quiet the brain cells.

In other forms of insomnia I rely mainly on paraldehyde. Patients don't like it, and the habit is not so easily set up.

It is especially useful and safe in cardiac affections, in acute inflamatory diseases of the lungs, in fevers and in delirium tremens. In mental cases I have used sulphonal up to thirty-grain doses and trional in twenty grains, and I am so satisfied with their affects that I do not use any other of the newer hypnotics.

"The Dietetic Treatment of Diabetes." Dr. Robert Saundby, of Birmingham, opened the discussion on the dietetic treatment of diabetes; he said that the usual diabetic diet, with its rigid restrictions, could only be carried out by the doctor's authority and the patient's docility. Compromise was the rule, but arrived at by the doctor's opinion being sacrificed to the exigencies of the patient. Diabetes mellitus was a clinical group, of which the causation and proper classification were still debatable. These therefore, should not be allowed to rule our views on treatment. Glycosuria was an abnormal phenomenon, but occurred when the amount of carbohydrates ingested exceeds the utilizing capacity of the body. This capacity varied in different individuals, and perhaps in the same individual at different times. Those who become easily glycosuric from slight excess stood in close relation to the milder forms of diabetes. In severe diabetes glycosuria persisted even on flesh diet—a fact explained by the formation of a carbohydrate molecule when albumen was converted into urea. Hence in severe diabetes there was no physiological ground for persisting with strict diet in the hope of thereby removing the glycosuria. We must look to clinical results for the justification of our treatment, and must not be led too far by our prepossessions in favor of any disputed pathological doctrine. Instead of following a blind routine we should give each case as much carbohydrate as experience showed he could assimilate. Of carbohydrates it was best to give 1½ pint of milk, 6 ounces of baked potato, 1½ ounce of levulose, and, in mild cases, 4½ ounces of dry toast. Fat bacon should, if possible form one meal, but diabetes appeared to absorb fat badly. Alcohol, in the absence of albuminuria, might be allowed up to 4 ouuces daily, well diluted with mineral water, or, in mild cases, a bottle of light Moselle or Bordeaux wine, or even a pint of bitter ale. It was of great importance to prescribe definite quantities, and to test the effects of the diet by weekly body

weighing, urine measurement, and sugar estimation. Of these the first was the most important.

In the discussion which followed Dr. Sydney Coupland (London), said that each individual case should be dieted as the condition of the patient indicated, but often diet could not have the desired effect.

Dr. Shingleton Smith (Bristol), pleaded for greater indulgence in the use of carbohydrates.

Dr. Duncan (Glasgow), said the amount of sugar was not the chief factor in determining whether a case was mild or severe. When restricted diet was not followed by increased weakness it should be continued.

Dr. Tyson (Philadelphia) divided cases of diabetes into two classes—the mild and severe. In the mild cases the sugar could be eliminated by diet alone, while in the severe cases no diet seemed to be effectual. In any case when the sugar could be kept under 2 per cent. by a limited use of carbohydrates, it was advisable to do so estimating the quantity excreted once each month. Pure proteid diet he believed to be harmful owing to its tendency to produce toxic substance, but this was obviated by the latitude taken by the patient.

Drs. Jacobi, Murray Lindsay and the President continued the discussion, the general opinion being that heretofore a blind routine diet had been followed too much, Dr. Sundby replied briefly.

Dr. Duncan (Glasgow) then read a paper on "The Treatment of Diabetes by Uranium Nitrate." He illustrated his remarks by charts, and selected five cases which had been much benefited by the use of the drug, although he did not claim for it a specific action.

Drs. Tyson and Saundby discussed the subject and Dr. Duncan replied.

Dr. Graham (Toronto), read the report of a case of crossed hemiplegia, the result of injury to the pons varolii, and showed the patient. Dr. Graham had been unable to find another similar case in the literature. The President and Dr. Angell (Rochester) remarked on the occurrence of paresis as the result of inflammation or hæmorrhage in the case.

Dr. Henry Koplik (New York), read a paper on "The Bacteriology of Pertussis," in which he claimed to have isolated a bacillus which was the specific cause. He described the morphological characters, methods of growth. In the 16 cases of pertussis he found the bacillus in 13. Sir James Grant and Dr. Graham discussed the question, and Dr. Koplik replied and expressed the hope that he would be in a position to make further contributions to the subject at an early date.

Dr. J. H. Musser (Philadelphia) read a paper on "The Disappearance of Endocardial Murmurs," presumably organic, in which he mentioned particularly nitral obstruction, aortic regurgitant and mitral regurgitant murmurs as disappearing occasionally. His conclusion from a study of the literature and his own experience was that mitral obstructive murmurs appeared and disappeared from time to time; that aortic regurgitant murmurs rarely disappeared, and when they did it was due to some organic pathological change; that mitral regurgitant murmurs might be due to dilatation with incompetence, and were subject to change from time to time

Dr. Whittaker (Cincinnati), then related six years' experience with tuberculosis. He had used it in 1,000 cases without any evil result beyond its characterstic reaction. He found that as soon as it became tolerated it lost its effect; it had no effect as a curative agent when there was secondary infiction from pus organisms; it was contraindicated only in miliary tuberculosis. He urged strongly its use as a diagnostic agent.

Dr. William Hunter (London) opened the discussion on Cholelithiasis in a very admirable paper, in which he considered chiefly the etiology and treatment. He showed

that in the intrahepatic ducts the only concretion is bilirubin calcium, in the hepatic duct there is bilirubin calcium with cholesterin; in the gall bladder bilirubin calcium, cholesterine and an albuminous product produced by catarrhal inflammation of this viscus. Cholesterine was formed from degenerative changes in epithelial structures lining the gall bladder chiefly; the albuminous body above mentioned precipitated the bilirubin calcium so leading to the formation of gall stones. Other factors leading up to this stage, were as he had demonstrated that micro-organisms, *e.g.*, those of enteric fever and the bacillus coli communis had frequently been found in the gall bladder, and these by their irritant action, set up a catarrhal inflammation. Experimentally, he had produced catarrah of the intrahepatic and common bile ducts and of the duodenum by the injections of toluenendiamine into the blood. The production of gall stones he attributed to infection of the bile passages with micro-organisms and the action of some irritant excreted in the bile. Regarding the class of cases amenable to treatment medicinally he mentioned particularly the second group. The medication was to flush the liver cells with water, and for this purpose he had great faith in Carlsbad or Vichy waters. To dissolve the formed stone olive oil would be of use, but, it was not certain that it passed down the bile passages.

Dr. Graham (Toronto) followed with a paper in which he reviewed the whole subject from a clinical and practical standpoint. He described briefly the course of the disease, the symptoms and sequelæ, and discussed the differential diagnosis between biliary colic, spasms of the pylorus, hepatic abscess, and carcinoma of the gall bladders. Difficulty in diagnosis was often due to want of care in ascertaining the previous history, and sometimes to want of care in observing the present condition of the patient. He emphasized strongly the necessity of careful examination of the urine for bile pigment in all cases in which there was a difficulty in arriving at a diagnosis. He discussed briefly distension of the gall bladder and various forms of kidney troubles, in which there was a liability to confusion.

Dr. Osler (Baltimore) then briefly referred to the relation between the bacillus of enteric fever and cholelithiasis. He had seen four cases in two years and believed it much more common than it was heretofore supposed. He pointed out that in ordinary cases of gall stone colic indicated an acute infection in many cases, as evidenced by the fever, enlarged spleen, and albumen in the urine. In cases in which punctures had been made, pathogenic organisms were found in the spleen and in the gall bladder. Furthermore, in the association of fever with choletithiasis, he separated four groups of cases: (1) Fever with a chill not necessarily an indication of infection; (2) Fever associated with acute cholecystitis, in which the fever was remittent, but not associated with chills, and the symytoms passed into those of suppuration; (3) Hepatic intermittent fever limited to cases resembling malarial fever with no symptoms whatever between the attacks; (4) Fever with suppurative processes either in the gall bladder or liver. He paid a tribute to the surgeons for their assistance in advancing our knowledge of the disease in question. The discussion was subsequently well sustained and at its conclusion Dr. Williams (Boston) illustrated some of the uses of the Roentgen rays in medicine. Diagrams were shown in which the changes in the outline of the thorax produced by pneumonia emphysema, pneumo-thorax and pleurisy were seen. He considered the fluoroscope more valuable in many cases than the stethoscope, but pleaded for a combined use of the two in making a definite diagnosis in obscure cases. Drs. Cadman, Jones, Stewart, and the President discussed the subject.

Other papers having been read, Dr.

Jones (Buffalo) moved a vote of thanks to the President for the very admirable way in which he had conducted the meetings, and a vote of thanks was also tendered the secretaries for the painstaking labors on behalf of the section.

OBSTETRICS AND GYNÆCOLOGY SECTION.

Dr. Japp Sinclair presided over the section of Gynæcology and Obstetrics.

Dr. J. A. Temple, of Toronto, opened the discussion on "Hyperemesis Gravidarum." He said comparatively little was known of this subject; the text-books had little or no information to offer. He failed to account for the gravity of the results in many of these cases. He would, therefore, only deal with the subject in outline, and hoped that in the discussion much light would be thrown on the causations of this very serious disease. He said there were various views held as to the etiology. The causes were obscure; the results much more fatal than was generally supposed. In his experience the condition was much worse in primiparous females than in pluriparous. The condition was not to be confused with the vomiting of ordinary cases, which was no doubt in part a physiological act and of a sympathetic nature. The severe forms were no doubt associated with some pathological condition. Strange to say there were few *post-mortem* reports to aid in studying this disease. Hewitt believed that sub-involution, versions, flexions, metritis, etc., were frequently at the bottom of the cases. And hysteria, neurasthenia and kindred affections were also supposed to act as causative agents to the disease. Diseases of the gastro-intestinal canal were serious complications, especially was this true of gastric-ulcer. One writer has claimed that the symptoms resulted from some pathological condition of the vomiting centre. Race, social conditions, etc., entered into the matter and question of causation. The more highly developed the individuals the more frequent the cases; still with all these suggested causes many cases remained unaccounted for. He cited one case he had seen recently in which the patient had died, no cause being assigned for the serious vomiting which produced such a dire result. He desired to be enlightened in the matter. As a teacher, he felt that he stood in need of more positive information as to the etiology of hyperemesis gravidarum.

Dr. Giles, of London, England, said he thought the causation of this trouble might be arrived at by studying the normal vomiting of pregnancy. Of three hundred cases in which he had studied this condition, thirty-three per cent. had no vomiting whatever, and fifty per cent. had no morning sickness for three months. Among his patients those who had severe vomiting had also dysmenorrhœa. In the latter months of pregnancy he thought three factors contributed largely to the causation: (1) the nervous tension during the whole period of gestation; (2) a peripheral source of irritation in the expanding uterus; and (3) the easy channel for the discharge of nervous disturbance through the vagus. He thought in order to overcome the trouble each patient should receive individual treatment, directed primarily to the special cause of the disease. He thought it was a common mistake to delay too long treatment in many of these cases.

Dr. Gardiner, of Montreal, said his experience did not agree with that of Dr. Giles. Dysmenorrhœa had not been in his experience a prevailing feature of the cases. He emphasized strongly the desirability of relieving the patient without much delay. Great prostration was apt to quickly supervene, and in some of his early cases he had found his patients in an extremely critical condition before he realized the gravity of it. Another point he wished to emphasize was

that, an abortion should not be performed for the relief of the disease without consultation, even though an unfriendly *confrere* had to be called in. His guide in this matter was an increasingly rapid, weak pulse. He had seen cases where death had resulted before any such relief had been attempted.

Dr. Skene wished to draw attention to one point: that while vomiting was purely functional in the first stages of hyperemesis, it might result in organic disease which further complicated the difficulties. In his own cases very severe gastritis had been produced. He liked lavage treatment.

Dr. H. T. Hanks, of New York, thought two main lines of treatment were rest and nourishment. In the early stages of pregnancy, where hyperemesis was present, the performance of abortion was not serious, but in the later stages it was a very serious matter indeed.

Dr. Jowett, of Brooklyn, said he had found the rectal injections of potassium bromide and chloral beneficial; and also applications of cocaine to the cervix.

Dr. Cameron, of Montreal, thought that no rule of treatment could be laid down. It was essential to treat the patient and not the disease. Strong, healthy patients usually did fairly well in this very serious trouble. Not so with the weak, nervous patient; and it was in this latter class of individuals where they were obliged to be very careful not to wait too long. The vitality of the patient was to be most carefully estimated; this would be a guide as to the best time to interfere. An abortion should not be produced except when they were satisfied that the disease was uncontrollable rather than uncontrolled. He had had very beneficial results from the application of the sedative current of electricity, downwards from the attachment of the sterno cleido-mastoid to the umbilicus.

Dr. Thornton, of Deloraine, Manitoba, asked if any of the members had tried the dorsal blister? He had heard it vaunted as a successful means of treating such cases.

Dr. J. Sinclair said that he had had satisfactory results in some of his cases by the administration of potassium bromide *per rectum*.

Dr. Giles, of London, showed a diagram to illustrate Barnes' boundary line in placenta previa, Dr. Barnes not being present.

Dr. John Campbell, of Belfast, read a paper on "Labor Complicated by Abnormalities of the Cervix Uteri and Vagina."

Dr. Murray, of New York, Dr. Howard Kelly, and Dr. Jewett continued the subject.

Dr. W. C. Lusk, of New York, read a paper on "The First Stage of Labor," illustrated by drawings, photographs, plaster casts and frozen sections.

Dr. W. Gardiner, of Montreal, shewed a large number of vesical calculi—three phials six inches in length filled. The stones varied in size from a shot up to two inches in diameter. They had been taken from a woman who had been suffering for years from prolapsus uteri.

The first paper was presented by Franklin Martin, of Chicago, entitled, "A Further Report on the Treatment of Uterine Fabroids by Vaginal Ligature of the Broad Ligament." He outlined the first methods advised and practiced by himself. He went on to describe the operation—how to make the incision, of ligating the uterine artery, mentioning some of the advantages of this method. If one was not successful he could then preform abdominal hysterectomy. The vaginal incision was much less serious a procedure than the abdominal.

Dr. Vinberg, of New York, did not approve of the operation. In his experience it had not given satisfactory results.

Dr. Skene, of Brooklyn, said as a choice of operation between hysterectomy and the vaginal method, in many cases of simple fibroids in young

women, he had found the vaginal incision very satisfactory. As to the choice of operation one should be guided by the age of the patient. In older persons hysterectomy might be done. Statistics show that more died from hysterectomy than from fibroids. One should not ligate when the mucous membrane of the uterus was diseased, unless one also treated that condititon. The speaker had used the electrical current to obliterate the artery.

Dr. W. Japp Sinclair then gave his address, choosing for his subject "Injuries of Parturition; the Old and the New," his reason being that he was called upon to deal with injuries produced by parturition, and believed that their existence had in too many instances been due to unwarranted operative proceedings by the obstetrician. Two cases he had seen illustrated thus: The first patient, when he saw her in consultation was in a most critical condition from a deep tear in the vaginal vault, made by forceps and unattended to. The second was a case of complete prolapsus uteri and the cervix so lacerated that the anterior and posterior halves of the cervix projecting between the nates looked like two separate organs. In contrasting the speedy and harmful delivery of modern days, he quoted from a case reported as occurring March, 1669. The patient, a primipara, aged 35, had been in labor eight days. The head was in the cavity of the pelvis, and the child had been dead four days. The accoucheur perforated and extracted with the crotchet, although the woman was moribund. She lived eleven days.

"Midwifery," the essayist contended, had become too surgical, and he maintained that the gynæcology had become so largely surgical as a direct result of surgical interference in midwifery practice. The midwifery practice among the working classes in England to-day was something to wonder at and deplore. The young practitioner sees a woman suffering under the pangs of labor; he can relieve these by anæsthetics; normal labor requires time; the doctor does not like waiting, and he has appliances by which he can abridge the process of normal labor; he knows that he may produce injuries, but these are in his eyes trifling compared with the injuries which he has been accustomed to see treated successfully by the surgeon with the aid of antiseptic appliances, and a laceration can always be sutured if it appears to be of sufficient importance; why, therefore, should he permit suffering to his patint and waste his own time? He does not know enough of gynæcological practice to be impressed with the importance of a laceration of the cervix or vagina, or a dislocation of the uterus, that is to say, of the remoter consequences of his well-meant interference.

The problem stated by the essayist was, "How were we to proceed in order to reconcile the avoidance of injuries to our patients which may carry important consequences to life and health in their train, with the use of the scientific resources of our generation which enable us, under proper safeguards, to soothe and curtail, the mental and physical sufferings which at the best were inherent in the process of parturition?"

On motion of Dr. Skene, Brooklyn, seconded by Dr. H. Kelly, Baltimore, a hearty vote of thanks was accorded Dr. Sinclair.

A discussion on the "Vaginal *versus* the abdominal route in dealing with inflammatory conditions and tumors of the pelvis," was introduced by Dr. E. W. Cushing, of Boston. In selecting the route, much depended on the nature of the operation, much on the method the operator had been trained to, few having equal facility by both routes. The French consider there is less shock by the vaginal route. Usually the shock is in direct proportion to the hæmorrhage. By the abdominal way there was greater certainty in diagnosis; greater facility,

as one could see better; greater facility in dealing with complications or of performing additional operations where necessity called for it.

In treatment of fibroids, the abdominal route is the rule. In foul tumors of the cervix, operate from below and save the peritoneum. In inflammatory disease, the operation may be done from below.

Dr. Skene, Brooklyn; Dr. Jno. Campbell, of Belfast; Dr. H. T. Hanks, of New York; Dr. J. F. Ross, of Toronto; Dr. A. L. Smith, of Montreal; Dr. Berry Hart, of Edinburgh; Dr. Currier, of New York, and the President discussed the paper.

Dr. Howard Kelly, of Baltimore, then gave a demonstration of catheterizing the ureters.

Dr. J. F. W. Ross gave a paper entitled "The Diagnosis of Intra-pelvis Tubular Disease." He reported some cases. He said the disease usually affected virgins. The condition might be mistaken for salpingitis from some other cause, neuralgia and sub-acute peritonitis, due to ovarian or uterine growths.

Dr. T. More Madden, Dublin, on the conservative treatment of fallopian tube disease. These two papers were discussed together by Dr. A. Palmer Dudley, New York; Dr. D. Berry Hart, Edinburgh; Dr. Gordon, Portland, U.S.A.; Dr. James Perrigo, Montreal; Dr Jenks, Detroit; Dr. A. E. Giles, London, England and Dr. W. Gardner, Montreal. Dr. Palmer Dudley and Dr, Ross replied.

Dr. D. Berry Hart read a paper on "The Morphology of the Vagina." This was illustrated by drawings, numerous micro-photographs and a namber of microscopic slides. His researches led him to believe that the lower third part of the vagina was derived, not from the fused mullerian ducts, as was generally supposed, but from the fused wolffian ducts and urogenital sinus. He had examined the vagina of the kangaroo and found his views supported, by finding that the adult condition there corresponded to the embryonic condition in the human subject.

Dr. J. Clarence Webster referred to the long brilliant work associated with the name of Dr. Berry Hart, and congratulated the meeting on having placed before it a paper of such high scientific value.

A discussion on "The Palliative and Radical Treatment of Uterine Flexions and Displacement," was introduced by two papers, the one by Dr. Lapthorn Smith, under the title of "Diagnosis and Treatment of Retroversion of the Uterus with Fixation," the other by Dr. J. Inglis Parsons, of London, England, on "A New Method of Treatment for the prolapse of the Uterus." The discussion was continued by Dr. J. Riddle Goffe, of New York; Dr. Murray, of New York; Dr. W. Gardner, Montreal; after which Dr. Lapthorn Smith replied.

PSYCHOLOGY.

Dr. Bucke, of London, Ont., gave the opening address in the section of Psychology. His subject was the "Mental Evolution of Man." He spoke in part as follows:

A man told Emerson during a Millerite excitement that the world was coming to an end. Emerson replied that it was a matter of little consequence. There are wise men who say that a man creates the world he lives in and he gives it its substance, so also does he give it its quality, in so far that it is good or bad as he is good or bad. Man is more important to himself than the whole outside world. The most essential part of man is the mind.

So psychology should be the most interesting of the sciences, though it has been much discredited by the imperfections of the method in which it has been studied. So much has this been so that down to our time nearly all the study of it was value-

less. We might as well study the body alone without reference to that of any other creature and attempt to decipher its genesis, development and kind, as to attempt to comprehend a single human mind without including in our examination all other human minds in all stages of evolution and all other minds to which our own is related—that of our kinsfolk the animals.

As man's body rests on the countless pre-human ancestors, so his mind is rooted in the senses and instincts of his ancestral species. These senses and instincts still live in him, making up indeed far the larger part of his current every-day life, while his higher physical life is merely an outgrowth and flower of them.

As plants are the embodiment of inorganic matter vivified by light and heat, so is man's mind an outcome of the expansion and culmination of the imperfect sensation of the worm, the rudimentary sight and hearing and taste of the fish and the reptile. And the simple consciousness springing from these passes to us after almost infinite ages of slow evolution and amelioration through ten thousand of generations of placental mammals, our immediate progenitors.

In the growth of man we recognize two processes. First, the gradual evolution to perfection of the faculties that have already come into existence, and, second, the springing into existence of faculties which had previously no existence. Hearing and sight developed by slow progress from the centres of touch, we are told; so in the region of the intellectual conceptual life was born from ages of receptual and that from millenniums of perceptual.

Dr. Bucke then discussed the mental growth of the individual and in the race. There was first excitability, then discrimination, or choice and rejection of, say, different foods. After long interval the senses appear with which comes the capacity for pleasure and pain; then memory; recognition of offspring, then reason, recognition of individuals and the communication of ideas. Concurrently moral faculties, as fear, surprise, jealousy, anger, affection, play, sympathy, pride, resentment, grief, hate, etc., arise. We have now reached the mental plane of the higher animals which is equal to that of the human being at about two years of age. Then occurs the mental expansion when the child's mind steadily grows from the status of the latter to the status of the human mind. This era in the individual, during which he walks erect and possesses the receptual intelligence, now having the power of forming concept or of uttering words, represents in the race the age of the *alalus homo*, a period of perhaps a 100,000 years. At the average of three years in the individual self-consciousness is born, and the individual from the point of view of physiology has become a human being. After this acquisition many faculties must be possessed and developed before he is mentally a mature man—before he attains the color sense, the sense of fragrance, the human moral nature and the musical sense. Self-consciousness must have appeared first at full maturity—perhaps at twenty. But self-consciousness occurs to-day at three and we reach maturity at thirty-five. So the advance the individual makes between three and thirty-five represents the advance of the race between the date of the appearance of self-consciousness and to-day; the mental state of the three-year-old child to-day being the mental status of the adult when consciousness first appeared. How long has it taken for the human mind to grow from self-consciousness to its present status? No less than several hundred thousand years. Memory and simple consciousness appear a few days after birth, the use of tools twelve months after. Shame, remorse and a sense of the ludicrous in fifteen months. And it is to be noted that in every instance the time of the appearance of the faculty in the in-

fant corresponds with the stage at which the same faculties occurred in the ascending animal scale. For instance, memory and simple consciousness occur in animals as primitive as the echinodermata. The use of tools in monkeys, shame, remorse, and a sense of the ludicrous are confined almost entirely to anthrophoid apes and dogs. Geiger has proved that the color sense appeared within thirty thousand years. It is acquired by the individual at about five or six. Fragrance was acquired later than the color sense, it is acquired later by the individual. A considerable study makes him think that the moral nature cannot be more than ten thousand years old. To-day the human moral nature does not come into existence before the age of fifteen. The musical sense is less than five thousand years old and in individuals is not usually born before adolescence.

Three laws are worthy of notice and govern the acquisition of new faculties in any given case:

First.—The longer a race has been in possession of a given faculty, the more universal will that faculty be in the race. This proposition scarcely needs to be proved.

Second.—The longer a race has been in possession of a given faculty, the more firmly is that faculty found in each individual of the race who possess it.

Third.—The state of dreaming seemed to reveal the fact that in sleep such mind as we have differs from our waking mind, especially by being more primitive. That fact, it would be almost strictly true to say, that in dreams we pass backward into the pre-human mental life, that the intellectual faculties which we possess in dreams are especially recepts as distinguished from our waking concepts; while in the moral realm there are six faculties, viz., remorse, shame, surprise, along with the latter and more basic sense functions which belong to us before we reached the human plane; and that more modern mental faculties such as the musical sense, self-consciousness and the human moral nature, have no existence in this condition, or if they do occur, it is only a rare exception.

Simple consciousness makes its appearance in a few days. It is absolutely universal in the race. It is a peculiarity of the earliest mammals. It is only lost in deep sleep or coma. It is present in all dreams. Shame is born in the infant at about fifteen months. It is a pre-human faculty, being found in the dog and the ape, and undoubtedly existed in pre-human ancestors. It is almost universal, being absent only in the lowest idiots. Very common in dreams. Self-consciousness makes its appearance at the average age of three. It is not present in any species but the human; it is, in fact, that faculty the possession of which by an individual constitutes him a man. Not universal in our race, being absent in all true idiots. It dates back to the first true man. The race, wild, unclothed, walked erect, gregarious, with a true language to a limited extent, destitute of marriage, government or any institution, animal—but in virtue of highly receptual intelligence—king of animals, which develops self-consciousness, and by that fact became men. It is impossible to say how long ago this was, but it must have been several thousand years. This fact is much more easily lost than is simple consciousness. The color sense appears about the age of five. It is absent in one in every forty-seven. It appeared in our ancestors perhaps less than six hundred and thirty thousand years ago. Seldom present in dreams and when it does appear usually red is the color observed. The moral nature belongs to a much later stage of evolution than any of the faculties so far considered. It does not make its appearance in the individual before the average age of fifteen. It it absent in forty human beings in every

thousand. It would seem clear, as stated already, from a consideration of our historical ancestors, from the fact that the faculty rapidly fades out as we ascend in the scale, it cannot have existed more than ten thousand years at most. It is more unstable in the individual than later consciousness. As self-consciousness, it is never present in dreams. The musical faculty is in the act of being born in the race. It appears in about twenty, it exists in about only one half the number of our race. It came into existence perhaps less than 65,000 years ago. Never, or almost never, present in dreams, even in musicians.

Dr. Bucke then discussed the scheme of mental evolution. He said: The mind is still growing. No man can ever say, positively, that his theory is the true one, but I am prepared to say of the past hypothesis, that if it be accepted, it will enable us to understand something of the phenomena of mind as we observe it. Whereas, if we should prefer to hold, as many do, that the human mind was created independently of any that preceded it by a *fiat* and *per saltum*, then I say deliberately, that there is and can be no such thing as the science of psychology, and that every attempt to investigate or explain, to comprehend or divine the rational of the facts observed as to its origin and growth in the individual must remain forever futile. In this idea of evolution lies enveloped the mystery of the past, the explanation of the present and the sure prescience of the future, giving what we were, what we are, and what we shall be. If this hypothesis is correct then all forms of insanity, including all forms of disease, are cases of atavism. In this view, insanity is due to congenital absence (leading to breakdown) of some faculty or faculties, such absence or imperfections being due to more or less complete reversion to an ancestral type. In my own opinion, this view explains insanity and its numerous forms more completely than they can be explained from any other point of view, and is therefore of great value to the thoughtful student of this phenomena.

Upon this view the comparatively recent origin and rapid evolution of the human mind, and especially the rapid mental evolution of the so-called Ayran peoples in the modern civilized world, since the stability of new forms, functions or faculty in our race, the more frequently will it be found absent through defect or unstable in individuals of the race. The second corollary is that the human mind is at present not formed, but forming, is not completed. First, by slow and devious stages, taken in darkness, our remote ancestors early climbed to consciousness. After another long interval they reached self-consciousness, but that cannot be the end. The cosmic consciousness could not stop there, could not stop anywhere. Our old mental faculties are some of them fading out, others advance to greater perfection, and alongside of them new ones springing up, and will be of overshadowing importance in the future. So-called telepathy and clairvoyance seems to be specimens of such commencing faculties, so with the phenomena of spiritualism. The labors of the society for psychical research have made it to me plain that these phenomena, as in well authenticated cases, must really exist. To me these are cases in which a given human being has faculties which are not commonly possessed. Whether such faculties will yet become common will depend upon general laws of natural selection and upon whether the possession of the nascent faculty is advantageous or not to the individual and to the race. But there has existed a more important, a third and higher form of consciousness in our race, which seems to have arrived at maturity at about the age of thirty-five or forty in the occasional cases in which it has been seen during the last 2000 years, the cosmic consciousness.

"Surgical Gynecology in Insanity."

This was the title of a paper by A. T. Hobbs, M.D., Asylum for Insane, London, Ont.

The essayist said that two and a half years ago surgical gynecology was introduced as a rational method of treatment in the Asylum for the Insane at London, Ont. which has a female population of nearly 600 patients. A systematic examination of these patients for gynecic disease was made, aided in nearly every case by anesthesia, and if disease necessitating surgical procedure for its removal or relief was diagnosed, such operation was performed after thorough preparation on modern aseptic principles. The results following operative treatment have exceeded expectations. Not only have the majority of the cases treated been restored to physical health, but as a sequence, in a large percentage the mental condition has been brought up to par.

The gynecological examination of one hundred insane women pointed to the existence of pelvic disease in ninety-three patients, and in eighty-nine of the one hundred cases operative treatment was undoubtedly needed for the improvement of their physical condition. The diseases diagnosed in the ninety-three cases were as follows:

Endometritis	61	times.
Subinvolution	55	"
Cervix, lacerated	27	"
" hypertrophied	19	"
" eroded	10	"
" cystic	15	"
" polypi	2	"
Uterine, fibroids	6	"
" epithelioma	1	"
" sarcoma	1	"
" retroversion	21	"
" procidentia complete	4	"
Dysmenorrhœa	6	"
Menorrhagia	2	"
Perineal lacerations	17	"
Vaginal "	1	"
Ovarian cystic tumors	9	"
Prolapsed adherent ovaries and tubes	7	times.
Remains of an old inflammatory mass in broad ligament	1	"
Tubercular peritonitis with uterus, ovaries and tubes agglutinated to intestines	1	"
Superinvolution of all the pelvic organs in patient aged 27	1	"
Cysts of labia	1	"
Recto-vaginal fistula	1	"
Anal fissure	1	"
Complete laceration of urethra	1	"
Urethral carbuncles	3	"
Elongated and hypertrophied clitoris	1	"
Hemorrhoids	9	"

The diagnoses of diseases as above enumerated, and the designation of operation was invariably deferred to our consulting gynecologist, Dr. Meek, who participated in the examination and the subsequent surgical treatment in every case.

In works on Psychology very little attention has been given to the subject of utero-ovarian disease in insanity. Regis, in his "Manual of Mental Medicine," second edition, page 350, quotes Dr. Wigleworth as having made one hundred and nine autopsies on insane women in reference to the presence of pelvic disease, and in only forty-two, or thirty-eight per cent., were the sexual organs found healthy. He also asserts that in forty-five of these cases the utero-ovarian disease had some connection with the insanity, and that fibroid tumors and displacement of the womb, together with alteration of the ovaries, seemed to be the lesions having the most influence on mental disorders. Our experience in the London Asylum confirmed the results of Wigleworth's examinations as to the existence to a large extent of pelvic disease among the insane. The prevalence of such disease is apt to be

overlooked in routine treatment of the insane.

Symptomatology of disease in lunatics is unsually misleading. Their delusional reasoning and analgesic condition no doubt accounts for this. Methodical physical examination with the assistance of anesthesia is indispensable to a correct diagnosis.

The normal mental status is continually influenced by other than that of the brain alone. The closer the intimacy of the brain centres with any other organ the more easily is the mind affected by the derangement of the functions of that organ. Those organs concerned in the reproduction of the species are more closely related to the great nerve centres than any other part of the organism.

If the physiological development, working and decadence of these organs have a marked influence on a woman's mind, is it not likely that pathological lesions would often produce mental disquietude, and become potential factors in the causation of insanity in one who is predisposed to mental sickness? Of two thousand women admitted into the London Asylum, the puerperium has been cited as the exciting cause of insanity in over two hundred, or ten per cent. Less than half of the latter have returned to their homes restored or improved, as the result of general treatment. Nearly all of these cases had some form of minor or major pelvic disease. Many of those who recovered without special treatment would doubtless have been restored to their mental equilibrium much sooner under appropriate gynecological treatment. I desire to emphasize the statement that a number of puerperal cases who drifted into chronic insanity would have been restored to health, not only bodily but mentally, if the requisite surgical, in addition to the medical treatment had been employed before mental deterioration, produced by constant irritation of the nerve centres reflexly induced by the pelvic disease, had taken place.

The primary object of surgical gynecology in the insane is the eradication of pathological tissues on physical grounds in organs pertaining to the cycle of reproduction. The immediate result of such procedure is the promotion of bodily health and the removal of a source of discomfort to the patient. Almost invariably, as a sequence, there is a gain in weight and in physical well-being, and if no organic disease of the brain is present, the mental condition of the majority of these patients will improve with the restoration of physical health. A number of our asylum cases, some of which were apparently hopeless, recovered their reason as well as their bodily health, as a result of the eradiction of diseased tissues. In a number of confirmed lunatics, subject daily to fits of irritability and excitement, and in whom upon examination there was found gross pelvic disease, the effects of surgical treatment was to allay and remove the tendency to fits of passion and excitement, and to render their lives more comfortable and tolerant to themselves and others.

Having some eighty cases to report, in some of which more than one operation was performed, a minute detail of each one would not be possible within the limits of this paper, and I shall therefore confine myself to a brief reference to the cases, as classified under their respective diseases.

In some fourteen cases divulsion and curettage were indicated for endometrites and subinvoluted uteri. In all these cases physical benefit was soon apparent, and eight, or 57 per cent., recovered mentally; one improved, and, as yet, the mental condition in the five others remains unaffected.

The cervix, as well as the body and endometrium of the uterus, was found diseased in twenty-seven patients. Besides curettage of the uterine cavity, repair or amputation of the diseased cervix were the operations performed. In every one of these cases unmter-

rupted convalescence ensued, with marked increase in bodily health. Subsequently eleven, or 42 per cent., regained their normal mental condition, and in only eight, or 30 per cent., has there been observed no mental change.

Malposition of the uterus, with or without complications, was the principal lesion diagnosed in eleven patients, eight of whom were operated upon by the method as devised by Alexander for replacing the uterus; and the remaining three by ventro-suspension of that organ. In all these the displacement was corrected, and rapid physical recovery ensued. Mental recovery followed in three of the eleven cases, or 27 per cent. Some improvement occurred in four, but the remainder showed no sign of return to mental health.

Hysterectomy was the operation indicated in twelve cases, seven being done by the vaginal route and five by the abdominal method. The diseased conditions determining the operations were as follows:

Six had fibroid tumors, with more or less adhesions and diseased adenexa; four had complete procidentia uteri; one had epithelioma, and one sarcoma! Two of the twelve cases of hysterectomy died subsequent to operation; one on the third day from exhaustion following operation, and the other on the seventeenth day from secondary hemorrhage, which was induced by the patient herself. She got hold of the ligatures in the vagina and tore them forcibly from the stumps of the broad ligament. The hemorrhage was checked, but she gradually sank and died in forty-eight hours after onset of the hemorrhage. She was sixty-five years old at the time of the operation. The results up to date in these twelve cases are as follows:

Two, or 17 per cent., regained their former mental health; three, or 25 per cent., improved; five, or 41 per cent, remained unchanged; and two, or 16 per cent., died.

In ten patients who had diseased ovaries and tubes, coeliotomy and removal of the affected organs was done, with the additional operation of ventro-suspension of the uterus in three of them. One death succeeded operation on the twelfth day from pneumonia, the patient being quite old. The remaining nine made good physical recovery. The mental results in these cases were admirable; six, or 60 per cent., of them recovered their reason, and one only has shown no improvement in this respect.

Coeliotomy was done in one case of tubercular peritonitis that had prolapse of all the pelvic organs which were agglutinated to the intestines. After flushing out the abdominal cavity with a normal salt solution, the wound was closed up without any attempt being made to disturb the mass, as it was considered impossible to preserve life if the operation was proceeded with. She subsequently improved mentally, and is now at home with her friends.

Perineorrhaphy for the prolapse of the vaginal walls was the indication for surgical interference in five cases, with no resulting mental change from the operation, one only showing a slight improvement. One subsequently died of exhaustion, caused by general syphilitic ulceration.

A summary of these eighty cases points to the fact that there were thirty, or 37½ per cent., mental recoveries; eighteen, or 22½ per cent., improved considerably; and in twenty-eight, or 35 per cent., there was no change mentally. Death followed operation in four, or 5 per cent., of all cases done. It is but fair to state that, owing to the improvement in aseptic technique and the accumulated experience in the management of insane patients operated upon, that no death has resulted from operation since May 19, 1896, which was the thirty-fourth of the eighty cases cited.

Of the thirty patients who recovered, eleven had been insane less than a year; seven between one and

two years; four between two and three years, four between three and four years, one between four and five years, and three over five years.

I desire to draw your attention to the fact that the best mental results followed the removal of diseased ovaries. The recovery rate, 60 per cent., was considerably higher than in the cases for the eradication of uterine disease, notwithstanding the noteworthy fact that the average duration of insanity in those who recovered from ovarian disease was over four years, which was greater than the average period of insanity in the uterine cases.

The results obtained in the prosecution of this work at the London Asylum for Insane would seem to justify the means employed for the relief of this class of unfortunates. If only bodily health be regained, it is surely due to the insane that the same attention be paid to their physical restoration as is devoted to their sane fellow-beings. If it is a fact that physical disease is often the basis of their mental affliction, it is surely imperative upon humane grounds that the discoveries of science be placed at their disposal, and that no undue conservatism should stand in the way of their being permitted to regain at least a measure of bodily comfort, and it may be, in many cases, a full restoration of their mental faculties.

Surgical gynecology among the insane has already passed the experimental stage, and the practical results obtained claim for the subject the recognition and encouragement which its importance demands.

Dr. Daniel Clark read a paper on "Reflexes in Psychiatry." In opening, he referred to the tendency to specialism. It is doubtful if these subdivisions are, as a whole, an unmixed good. As far as diagnosis and surgical operations are concerned, in special lines of abnormal conditions, the specialist has that knowledge and these modern appliances necessary to the successful treatment. Thus far the specialists are an advantage to the patients.

Anyone may notice with what assurance many of these circumscribed practitioners claim successful treatment of the diseased organ of which they know the most as being the necessity to ensure general bodily and mental health. Unconsciously such become one-sided. His domain is all-important, and the young enthusiast may develop into a fanatic and faddist. A specialty to be successful must be based on a thorough knowledge of the whole human organism in health and disease. Too much importance must not be attached to reflex action in disease. A true reflex circle consists of an afferent nerve, a focal nerve cell or cells and an efferent nerve, and this act is along physiological lines.

In many diseases we have instead "associated sensations" or "co-sensations" not "neurotic reflexes" so-called. The influence may begin *ab extra* and may and mostly does end in some of the great nerve centres, or it may begin in one or other great nerve centre, and show its malign influence in some particular organ. Such diseases as atonic dyspepsia, ovarian neuralgia, the various convulsions, angina pectoris, asthma, diabetes, and various others are of this class. Many diseases have been treated locally not only without benefit, but with positive injury of the nerve centres, in which lie the primary cause. Many women have been unsexed to their moral and mental undoing by unwarranted extirpating of the ovaries, where no disease existed beyond neuralgic conditions. An intermittent heart was often diagnosed as organic disease, when the sympathetic nerve supply to stomach was at fault. So-called inflammatory rheumatism in the joints is still thus classed. No rational explanation of the migrations in this disease can be given, except we take into account the sympathetic nerve influence on the circulation.

The sympathetic system is almost

everywhere, not only in intimate relation with the cerebro spinal system, but it controls and stimulates the glandular, visceral and vascular systems.

These facts, often lost sight of in practice, are strikingly seen in gynecological treatment, especially when it is claimed that uterine disease nearly always controls mental conditions. Minor abnormalities are magnified into important factors in producing insanity, thus effects are said to antedate cause.

The mistake lies in the supposition that these minor influences can be casually or adequately sympathetic. Some slight abnormal uterine condition is reported as the exciting and primary cause of serious brain lesion.

Why use therapeutics and mechanical ingenuity on the branches, when it is the roots which are diseased. In my experience not more than 3½ per cent. of female insane patients are afflicted because of uterine disease, but at least 40 per cent. are certified to as being insane through this cause.

It is also a fact that when insanity sets in many subacute diseases of the uterus disappear. Insanity appears to be antagonistic to their active existence. These alternatives are also true in respect to other diseases, especially those of the lungs of the insane.

Why remove ovaries which are only functionally afflicted? Extirpation means premature menopause; the natural menopause is a critical period in a woman's life. How much more intense must such change be when brought about suddenly in the young or in middle life. No wonder that such a radical interference lowers bodily and mental activity, and is a prolific cause of insanity instead of a cure. Our institution has a number of such cases. To artifically produce a condition which is naturally said to be conducive to insanity is certainly a strange procedure to bring about relief, or to act as a prophylactic.

The fact is, the change of life as well as puerperal crises have no special danger in the production of mental disorders unless there exists a predisposition thereto, in which condition the uterus is only one factor, *not the cause*, but an *occasion* to the outbreak. No one denies that some uterine diseases need surgical treatment. We object, however, to the wholesale conclusions that at least 50 to 60 per cent. of our female insane need gynecological treatment.

No wonder that eminent gynæcologists, such as Skene, the late Goodell Lusk and even Lawson Tait raise a warning voice against such extravagant statements and wholesale manipulations. Dr. Clark concluded his paper, after quoting many eminent authorities to support his views.

LARYNGOLOGY AND RHINOLOGY SECTION.

"The Significance of Laryngeal Paralysis." Dr. W. H. Daly (Pittsburg) read a paper on this subject.

In paralysis following diphtheria we may prognosticate recovery in five to seven months. If the paralysis is on the left side we should look out for a tumor or aneurism of aorta, etc., causing compression. If the paralysis is bi-lateral, we may have paralysis due to undefined central origin, due to degeneration of the nerves in their course to the larynx. Or it may be due to nuclei of degeneration in the nerve trunks.

That there is a cortical centre for the larynx is now shown to be probable. Paralysis of vocal cords may be due to brain softening or apoplexy of brain, and we may have localized paralysis in vocal cords due to cerebral origin, just as we may have paralysis of other muscles due to nuclei of chronic degeneration, or in bulbar paralysis. Also it may be due to adhesion of laryngeal branches of tenth nerve.

The supra-laryngeal nerve is mainly for sensation and the infra-laryngeal nerve is mainly one of motion. Pal-

sies of larynx may be due to neuritis in laryngeal nerves from toxins in the system, as in diphtheria. They may be traumatic, or due to muscular weakness or hysterical (the last is to be diagnosed by excluding all other causes). Aphonia is functional in hysteria, and the patient is generally able to whisper, while a mute is unable to whisper.

Dr. E. L. Shurly (Detroit) followed, giving special attention to prognosis, which he said is better understood owing to the progress made in physiology in regard to the function of the laryngeal nerve.

The laryngeal function is a double one, and has its analogues in the rectum and bladder, the centre of which are in the spinal cord. They act automatically and also are under voluntary control, which is true of the larynx as shown in phonation and singing and respiration.

There are three sorts of fibres in one nerve, tropic, sensory and motor; in hysteria there is a disturbance of nerve function. There have been as yet no structural lesions found, but in time there will be. I do not believe there can be aberration of function over and over again without a lesion of the peripheral nerve leading to the part showing the phenomenon, or else a brain lesion.

There may be reflex phenomena, but in these cases they are usually temporary, aphonia existing month after month without evidence of disease in brain or bulb is difficult to explain.

The prognosis of hysterical aphonia is usually good until there is a manifestation of lesion, but from over-exertion as in singing, it is good, because there is but little degeneration of nerve, while the prognosis of aphonia, of bulbar and central origin is hopeless. In other cases of paralysis there is hope of cure, and we should treat locally and generally, especially the latter.

Mr. Lennox Browne (London).—Adults are more liable to vocal paralysis from diphtheria than are children. In one of my cases there was no recovery. The left side is more frequently affected than the right side. When in the right side it is generally due to apical mischief, as tubercle or pleurisy. There is a probability of deep cerebral mischief in some cases.

The paralysis of the singing voice I have not often seen. It is more frequently due to misdirected efforts than to over-exercise. "Extinction de la Voix," as the French called it, was generally accompanied by laryngo-tracheal catarrh, and was best treated by expectorants and a trip to the seaside, if possible.

Dr. Bryson Delevan (New York).—The clinical significance of left recurrent paralysis is easier to explain than that of the right. He pointed out the need of more investigation into right-sided laryngeal paralysis, and referred to two unusually persistent cases of diphtherial paralysis—one case had lasted for three years and the other for sixteen years, with no return of the vocal power.

Dr. W. Permewan (Liverpool) said that syphilis is a great cause. (1) By direct implication in base of brain by gummata. (2) In chronic nervous diseases such as locomotor ataxia and general paralysis of the insane. (3) peripheral neuritis of nerves of larynx due to the action on nerves of syphilis. (4) And aneurisms, growths. etc. May be bilateral paralysis due to pressure on both laryngeal nerves from aneurism of aorta.

In general paralysis of the insane, paralysis of vocal cords is very common.

One point in the diagnosis of hysterical paralysis was the absence of all abductor paralysis, and said the prognosis was doubtful and concluded by relating a case of bilateral abductor paralysis due to pressure on both recurrent nerves (aneurism).

Dr. J. N. Mackenzie (Baltimore) then read a paper on "The Physiological and pathological relation

between the nose and the sexual apparatus."

He said special attention had been given to this subject by the ancients in regard to the voice, such as the voice of puberty, etc. He mentioned a case in which there was always a coryza without catarrh in a man after sexual indulgence.

In some there is engorgement of nose during menstruation, either bilateral or unilateral, which may be slight or enough to occlude the nostrils, causing sneezing, etc.

Also in some cases of pregnancy, at the time of the monthly functions there is congestion of the nose, also at these times in some women during lactation.

He mentioned a case of abortion following operation on nose by galvano cautery. Epistaxis and sneezing are frequently dependent on sexual congress.

Irritation of sexual organs may cause congestion in nasal passages. Abuse of venery may cause chronic nasal trouble, or aggravate existing trouble, often nasal catarrh is worse during menstruation, while frequently there is a watery discharge from nostrils or hæmorrhage, due to masturbation. One authority says that irregular amenorrhœa may be stopped by the application of cocaine to the nasal cavity in some cases and has shown that there are genital zones in the nostrils.

Stimulation of coitus beyond the normal and irritation of genito-urinary organs may cause olfactory trouble which he called reflex correlated action.

Clarence J. Blake mentioned a case of circumscribed localized congestion in the ear near the stapes. Everything else apparently normal. There was gradually progressive deafness, noises in the ear, etc. All shown worse during menstrual period especially when there was any disturbance or menstrual functions. Reflex in origin, no nasal trouble. Eighty per cent. of them showed some disturbance of the pelvic apparatus such as ante- or retro-version of uterus.

Lennox Browne mentioned a case of adenoid in child due to masturbation. On removing the adenoid the bad habit ceased. This was three years ago. In many cases of nasal disease look for menorrhagia or amenorrhœa or dysmenorrhœa, also vicarious menstruation in the form of epistaxis.

Dr. Bryson Delavan mentioned a case of adenoid in child six years of age, who masturbated. On removal of adenoid the habit ceased.

On being asked a question, Dr. McKenzie said he did not claim originality on the association of the voice and the genito-urinary organs, but on the relationship between irritation of genito-urinary organs and nasal affections.

Dr. John E. Roe read a paper on "The Correction of Nasal Deformities by subcutaneous operation." The operations were done subcutaneously formerly for the purpose of excluding air and subsequent sepsis, but now to avoid wounding the skin for appearance sake.

Deformities may be congenital, acquired or traumatic, which are all subdivided into vertical or lateral deformities.

The beauty depends on symmetry, and that was the principle underlying the operation. No two were alike. Thorough aseptic and antiseptic precautions were to be taken or else the granulation would destroy and make the deformity worse than before. The plan for each case must be studied out and great care subsequently. The results were not immediately brilliant but it takes time. Keep aseptic till there is complete cure, and the parts must be held in place by appliances changed from day to day as the swelling lessens by decrease in inflammation. The operation may have to be supplemented by minor ones. It required great vigilance for success. He showed enlarged photos of cases treated.

Dr. L. Shurly expressed admiration for the wonderful results obtained by Dr. Roe.

Dr. Daly congratulated his efforts also.

Dr. D. B. Delavan (New York) read a paper on "Surgical Treatment on Malignant Disease of Larynx." He said there was a high per cent. of failure either immediately or remotely. The difficulty of early diagnosis is great, because a simple papilloma may become malignant. In treatment, he said that preliminary tracheotomy should be done because the insertion of canula generally causes irritation which ceases in a few days, also the tube in the trochia, causes a change in respiration due to sudden access of oxygen, which relieves the patient. Also sepsis not apt to be set up by trachial wound if done early enough. Anæmia and mal-nutrition are relieved by early tracheotomy.

The patient has the physiological use of the organ and marked amelioration of local symptoms. The surgical advantages of early tracheotomy are valuable time saved from lessened shock, and the anæsthetic is easier given through the canula.

Dr. J. A. Mackenzie regarded the disease more hopefully and was in favor of complete extirpation of larnyx and neighbouring lymphatics, and said a surgeon falls short of his duty when he did not remove entire organ and its tributary lymphatics, and that he might then give reasonable assurance to patient. He does not think his advocacy of entire extirpation of larynx, which view he held in London two years ago, complete enough, but thinks the glands should be removed also.

Dr. Baker (Cleveland) was in favor of the radical operation and the preliminary tracheotomy if done by a skilliful surgeon was not so dangerous as he formerly supposed. He mentioned five cases, three of whom are living, one living five years after operation.

He found the soft rubber tube better than the metal or hard rubber generally sold for tracheotomy tubes.

Dr. Delavan replied and wished to emphasize early operation and early tracheotomy.

Dr. McKenzie advocated doing both operations at once, *i. e.*, tracheotomy and larnygeotomy.

DERMATOLOGY SECTION.

"The Rise and Progress of Dermatology," was the title of a paper by Dr. Malcolm Morris, Edinburgh.

The present, he said, was a time of jubilee celebrated by the living to shew the progress we had made and that we were not as our predecessors. The custom might seem to have a tendency to foster self-complacency, but he believed it rather tended to have a chastening effect on the living generation. Our progress was not all due to our merits; others had gone before and prepared the way. We were enabled on such occassions to see where we stand in the knowledge of things by seeing what has been done and what remains to do. As embryology furnishes a key to anatomy, so the history of the evolution of any branch of science throws light on many points which would otherwise be dark and teaches us to walk more warily.

It was remarkable that no peans have been heard in reference to dermatology at this time. Why should this branch be unsung? It was a form of specialism which, although having less victories perhaps than some others, still shewed that it was not lagging behind in the march of progress. A review of the progress was most apropos at this time, because what he chose to call "the centenary of scientific Dermatology" had not long passed. In 1790 the medical society of London awarded the Fothergillian gold medal to Willan, who submitted an outline and plan for the classification of skin diseases. He may be called the creator of der-

matology. A review of the development of this subject is, therefore, a history from its beginning. Many changes in the conceptions of skin diseases and manner of treatment have come about since Willan reclaimed the waste land and brought it under cultivation.

Willan was not the first who wrote on the skin. The Greeks gave a good deal of attention to the subject. Hippocrates speaks of Psoriasis, lichen, herpes, pomphi, and other forms, and roughly classifies them. Later Celsus and Galen described the various affections of the integnment. They had them much mixed. Many of the skin diseases they had were included under the heading of leprosy. Later syphilis overshadowed everything. The first treatise devoted to the skin was by Hieronyomus Mercurialis, of Venice, published in 1572, under the title "De Morbus Cutaneis et de Omnibus corpus excrementis." The author taught nothing beyond what he found in the ancients. In the early part of the eighteenth century a "Treatise of Diseases incident to the Skin" appeared with the imprimatur of the president of the Royal College of Physicians, London. This was by Turner. Turner's work has been called a compilation, and treated of the distempers affecting the outer parts. Thus not only the eruptive fevers, green sickness, jaundice, phimosis, paraphimosis, hæmorrhoids, etc.

In the latter part of the century there were two works each of which marked a distinct advance towards scientific dermatology. The first was "Doctrina morbis cutaneis," published in Vienna in 1776 by Von Plenck. He attempted a complete classification of skin diseases and arranged them in fourteen groups and one hundred and twenty varieties. Lorry in his work published in 1777, besides relating the clinical phenomena, discusses the pathology of morbid processes of the skin. Nothing much further was done until 1808, when Willan produced the treatise on cutaneous diseases which was a great work. He did not live to complete it, however. Ten years before this he had written a slender volume dealing with some of the lesions of the skin, and later he set himself the task of reducing the chaos in which the subject was enveloped to a cosmos, his object being, in his own words, "1st, to fix the sense of the terms by better definitions. 2nd, to state the general divisions from leading and peculiar circumstances in their appearances. 3rd, to classify and give names to the ones not yet distinguished. 4th, to specify the treatment."

Willan grouped them according to the character of the predominant lesion, taking the ground work from Plenck.

The English dermatologist reduced the fourteen orders of the Austrian to seven, characterized by papulæ, scales, vesicules, rashes, tubercles, macules, afterwards bullæ being added. This of course was defective as it took only the outward physical sign of the disordered action. The skin is but a limited range of pathological expression and so lesions identical in appearance may be due to different causes, hence classification on objective appearances was not correct—variole was classed with scabies as being pustular and varicella with eczema as a vascular disease. In many affections the lesions ran through the whole gamut.

Willan's classification induced an attempt at scientific arrangement if nothing more. His classification may be commended for his studious selection and accurate definition of terms. His description of the diseases was true to nature. The work was made vivid with colored engravings and rational methods of treatment were recommended. Willan's unfinished work was finished by Bateman who was in constant intercourse and thoroughly acquainted with the spirit of his learned predecessors and he completed the work on a "Delineation of Cutaneous Diseases." and also a "Practical Synopsis of Cutaneous

Diseases." Without Bateman, Willan might have been forgotten. Bateman had a scientific mind but he too died prematurely. His "Synopsis" ran through several editions. It was edited by Thompson. Thompson also published a work illustrated by Bateman's pictures. Thompson worked at it thirty years and was careful and accurate. Later in life he wrote a practical treatise on "Diseases Affecting the Skin." This was completed by Parkes, his nephew, and published in 1850. Parkes held that there could scarcely be any difference of opinion in arranging the tribe of divisions of diseases of the skin according to the physical characters of the eruption. He chose the orders of Willan. Almost simultaneously with Thompson's treatise was Erasimes Wilson's "Diseases of the Skin," which remains as a landmark in the history of the English school of dermatology. He made a new classification into four primary divisions: (1) Diseases of the derma; (2) diseases of the sudoriparous glands; (3) diseases of the sebiparous glands, (4) diseases of the trair and hairfollicles. Each of these included numerous subdivisions according to the structure changed or the function disordered. His description of diseased conditions was a faithful rendering of appearances. Of Mr. Johnathan Hutchinson it was permissible to say that he has brought to the study of dermatology a knowledge of diseases in general such as probably no other dermatologist has ever possessed.

The essayist then referred to the different schools that had together been instrumental in bringing the science to its present position. He characterized the English as the observers of facts and their standpoint essentially clinical. The French had done much towards illustration of appearances, but not till the last half of the present century had they taken a foremost part in the work. The Germans had always been eminent in the study of the pathology of the skin. Not until the last two or three decades had the American school taken a prominent place in this study. Each school had thus the defects of its qualities and each had done much in the development of dermatology. It could now be said to be truly international, the different schools having fused into one scientific commonwealth.

He next referred to the other than personal causes of the progress in this branch of study, of which the microscope was of the highest significance. Through the microscope was revealed the many micro-organisms which play such an important part in the ætiology of some of the skin diseases, and as the speaker further said, that the discovery of the vegetable fungi which cause ringworm, fevers, tinea versicolor and erythema unlike that of the itch mite was not made in the dark ages, but almost in the full glare of modern science.

Other lines of advance referred to by the essayist were the relation of various forms of cutaneous affections to disorders of the nervous system, as zoster, erythema, etc., to certain constitutional states, as pruritis, herpes, boils, and carbuncles, which are sometimes found associated with glycosuria, also to the infancy of auto-intoxication as a cause of skin affections.

The speaker then referred to the great improvement in our means and modes of treatment, and did not hesitate to say that a much greater proportion of patients are cured now than formerly and that our preparations and methods of applying them are cleanlier and more effective. He then spoke very hopefully of the future progress in the branch along the lines of increased power of dealing with parisitic affections; of a possible benefit from the newer indication with serums and extracts, and further development in dermatological therapeutics.

PATHOLOGY SECTION.

Mr. Watson Cheyne delivered the opening address in the section of Pathology.

The science of pathology, he said, was not more than fifty years old, and even twenty years ago the lectures on the subject were chiefly and practically lectures on morbid anatomy. Long and very accurate descriptions of the naked eye appearances of the diseased parts formed the chief substance of the instruction, but as to how or why these changes were brought about very little was known. At the present time attention was more especially directed to the discovery of the mode in which pathological changes were brought about, and the reasons why they appeared. It was the ætiological side of pathology which now occupied the attention. The knowledge of the changes produced was of minor importance as compared to the reason why they were set up and how they take place.

The most striking and important advance had been the growth of bacteriology, a science which had not only led to most important practical results but had also thrown a flood of light on the processes which go on in the body as a whole, and had stimulated research in every direction not immediately associated with it. Twenty-five years ago this science was non-existent.

The essayist then referred to the clinical facts and practical results which have been achieved in the past twenty years, and to the very great obstacles and disadvantages that had to be overcome in the matter of technique before the present splendid results were possible. Cultivation of micro-organism, fractional sterilization, inoculation, staining, etc., were all questions concerned in the elaboration of Listerism. Even the question of spontaneous generation remained for a time a lion in the path of the practical application of the science of bacteriology.

After referring briefly to the work of Lister, Roche and Metchinkoff, the speaker continued: What a remarkable series of views have been opened up Questions have arisen of the relation of the cells of the body to the parasite, the differentiation of cells, alteration in the serum, chemiotaxis, bacteric substance, toxins, immunity, etc., and yet we are clearly only on the threshold. The very simplicity of many of the explanations was sufficient to show that they were incomplete for the working of the body and far too intricate to be summed up in a simple formula.

The speaker then referred to some of the unsolved pathological problems. Why is it that in one part of the body there is a slow-growing lupus, in another part, perhaps of the same body, a rapidly developed tuberculosis? Why does incision into a joint cavity or into the peritoneum affected with tuberculosis sometimes cure and sometimes relieve the disease? What are the pathological distinctions between a ripe and unripe abscess?

The essayist next dealt with the subject of inflammation and its relation to union of tissue and repair after injury, stating that he has always taught that inflammation and healing were to some extent antagonistic processes. There had always been a tendency to look upon inflammation and healing as parts of the same process. But in spite of the very able arguments adduced in favor of this view, he was still unconvinced. He still looked on inflammation as a mechanism for getting rid of noxious agents or neutralizing their effect, and on the healing process as that which repaired defects, whether they were caused by injury or not. In fact, inflammation had to be followed by repair if recovery was to take place, but repair had not to be preceded by inflammation. As a matter of fact, the more cellular processes were investigated, the more it became evident that there was a marked differentiation of cells as regarded function.

The essayist then called attention to the remarkable results which have been attained in the treatment of disease as the result of experimental pathology. Scientific efforts to arrive at the truth as regards the working of nature will necessarily be slow, and must be carried on without any regard to the ultimate practical results. It is greatly the fashion with the opponents of experimental research to demand a simple instance in which the experimental has led to the discovery of a means of cure. But in no department of science has a single experiment of itself alone led to the practical result. The final observation which led to the practical result has been built up by numerous and laborious preliminary investigations and observations. And similarly in regard to the cure or the prevention of disease, the final trials on man have been led up to by numerous preceding observation and experiments. This is much better than that the experiments should be limited to man and whenever a new idea occurred to apply it to patients without any previous investigation!

The practical results already obtained by experimental study on lower criminals affect diagnosis, prophylaxis, and treatment and the important results can be readily seen with regaed to diphtheria, tuberculosis, malaria, anthrax, gonorrhœa, etc. The greatest of all the advances, beause so wide-reaching, has beer the rophylaxis of disease, especially in the prevention of septic disease.

Lastly I may refer, said the speaker, to the advances of the cure of disease. In diphtheria there can be no question that antitoxin has a most potent curative effect, and that used in the early stages it is most certain to cut short the disease. As regards tetanus, the evidence in the case of animals, is absolutely convincing. But in persons suffering from the disease the effect is not so certain, probably because we have to do with an acute illness which runs its course before the serum has had time to act. The same may be said of the antistreptococcus serum. Researches are being carried on in regard to pneumonia which may have valuable results.

The essayist then refered to Pasteur's method of inoculating cattle against anthrax and to Koch's tuberculin in the following terms: We all know how careful an observer Koch is, and the fact that he looks upon it as an available remedy is to my mind sufficient to make it necessary to give it a careful and hopeful trial.

But it is not only in the direction of bacteriology that advantage has resulted from pathological researches, as the beneficial use of organic fluids amply showed.

It is much to be lamented that though pathologists are working out problems, the solution of which can be of no personal gain to themselves, that mankind does not furnish the means or see the necessity of giving any assistance or support to the good work.

Dr. H. B. Anderson, of Toronto, had a number of pathological specimens on exhibition.

Case 1. "Hæmorrhagic Pancreatitis." T. S., male, aged thirty-five years; occupation, breakesman; active, robust, but intemperate in the use of alcohol. Had usually enjoyed good health, with the exception of occasional attacks of indigestion. About two years ago patient increased rapidly in weight; at death weighing 260 pounds.

Symptoms: Sudden deep-seated pains in epigastric region; nausea and vomiting incessant, at one time containing blood-clots. No fever, pain entirely disappeared on the third day. Patient was anxious and restless. Constipation followed by moderate diarrhœa on the fourth day. Delirium present during the last three days, restraint being necessary. Tympanites not marked. Death, with symptoms of collapse, on sixth day.

P. M. appearances: Thoracic and abdominal viscera healthy with the

exception of pancreas, which was large, firm, and purplish-black in color —weighed eleven ounces. Large hæmorrhage effusion in head of organ, and smaller areas of a similar character throughout the specimen. Fat necrosis present in omentum and about kidneys and pancreas. A large blood-clot was present in root of mesentery. No obstruction to pancreatic duct. Microscopic examination shewed an extensive interlobular infiltration of fat, and the presence of a hæmorrhagic exudate with numerous accumulations of small round cells. Fatty tissue in some parts appeared granular and fine, brownish acicular fatty crystals were seen, cells of globules indistinct and faintly granular—the neuclei being obscure. No bacteriological examination was was made.

Case 2. "Spontaneous Rupture of left Ventrile:" Mrs. ——, aged 65. Nutrition poor. Shewed an extreme degree of anæmia. Had been suffering from indigestion accompanied by vomiting, etc., for the treatment of which her physician resorted to lavage. On introducing the stomach-tube the patient gagged a little and became deeply cyanosed, and pulseless. The tube was immediately removed, but death had already occurred.

Autopsy: Anatomical diagnosis. Pericardium distended with blood. Extreme fatty degeneration of heart muscles, in places being yellowish in color throughout. Rupture of left ventrical, sclerosis of coronary arteries, chronic gastritis, interstitial nephritis. Rupture of ventrical was on posterior surface near the interventricular septum. It was longitudinal in direction three-fourths of an inch long; externally clear cut, internally the opening was larger and edges ragged.

Case 3. "Diaphragmatic Hernia." John P., aged fifty. Death due to injuries sustained from a railway accident two weeks previously. Diaphragm on the left side, extended in the form of a sac upwards, exposteriorly to the lower border of the third rib. The sac formed in this situation contained the cardiac end of the stomach, spleen, and splenic flexure of the colon. Through its greater extent the walls of the sac contained no muscle, but was lined with peritoneum. There was a history of a fall from a building two years previously, no definite account of which could be obtained.

Case 4. "Myxo-Sarcoma of small Intestine." Geo. M., aged thirty. Had been complaining for about four months, before which time he had been quite well; began to lose weight, becoming much emaciated and cachectic in appearance; had constipation alternating with diarrhœa; this culminated in symptoms of intestinal obstruction associated with stercoraceous vomiting. Examination revealed the presence of a tumor in front of the rectum; laparotomy was done, the bowel opened above the obstruction and sutured into the abdominal incision. Patient died two days after.

Autopsy: Anatomical diagnosis: general septic peritonitis. A tumor was found in the small intestine 8½ feet from the pyloric orifice; it was in the wall of the intestine covered externally by peritoneal coats, internally it projected into the lumen of the intestine; its surface was rough, irregular, and apparently necrotic internally. The gut below the tumor was soft, dark in color, and necrotic; a portion had sloughed from the surface of the tumor, lying free in the lumen of the bowel; the whole mass was wedged in between the rectum and the bladder, and required slight force for its removal, though no old adhesions were present. On account of the position of the tumor the bowel was bent on itself at an acute angle which, with the presence of the tumor, produced apparently complete obstruction. No secondary deposits were found. The tumor was soft in consistence, yellowish-white in color, looking like œdematous fat. Micro—

scopic examination showed the structure of myxo-sarcoma.

Case 5. "Primary cancer of the gall bladder." Mary J., aged sixty. History extended over a period of about three months; rapidly growing abdominal tumor, with accompanying cachexia character of the tumor was revealed by exploratory incision.

Autopsy: Large mass brain-like in consistence. occupying position of gall-blader; in the centre of this mass about one hundred gall-stones were found, one of them occluded the remains of the cystic duct; secondary nodules were found scattered throughout the liver. Microscopical examination shews the structure of an encephaloid cancer.

Case 6. "Aneurism of abdominal aorta." This occurred at seat of superior mesenteric artery which was completely occluded, and its distal end dwindled to a fibrous cord. The aneurism had pressed the head of the pancreas into the portal fissure of the liver. Marked ascites were present; kidneys showed slight interstitial nephritis; heart left side was hypertrophied.

Case 7. "Cysts of stomach and intestine." Mrs. A., aged fifty-nine, had enjoyed good health until ten years before death. During that period she had been troubled with chronic diarrhœa and bilious attacks; these attacks were more frequent and severe during the last few years; her fatal illness came on with diarrhœa, which lasted four days, and was followed by constipation, bowels not moving for four days. Dr. D. W. McPherson was called to see her July 5th, 1897; he found temperature normal, pulse ninety; she had complete loss of appetite. Physical examination discovered a tumor six inches diameter, occupying the left hypochondiac and umbilical region; it was slightly fluctuating, movable upwards and to the left, no pain or tenderness in connection with it. The area occupied by the tumor was dull on percussion, the rest of the abdomen was markedly tympanitic; patient had noticed the tumor for about five weeks; she said it was gradually enlarging. On July 9th, a simple enema was followed by the evacuation of a large quantity of slimy greenish yellow, very offensive discharge from the bowels in which were large fœcal masses; after this the tumor felt softer; with the use of laxatives and enemata the motions of the bowels became free and natural in appearance; she had occasional attacks of vomiting. An exploratory incision was decided upon which was made July 15th; on opening the peritonal cavity a mass, the size of a child's head presented; it was intimately connected with the anterior surface of the stomach and transverse colon and some coils of the small intestine; the tumor was sutured into the abdominal incision and opened, a pint of greenish-brown fluid being evacuated. Patient died July 16th. The fluid from this cyst was not preserved for examination.

Autopsy showed the presence of three other cysts—one in the posterior wall of the stomach and two others in the jejunum. One of the latter was adherent to the descending colon. The cavity of the stomach was greatly reduced in size. The mesenteric and retro-peritoneal glands were enlarged and dark in color. Other organs were normal in gross appearance. Large cyst in jejunum three and a half by two and a half inches in diameter contained 150cc. of thick grumous material of a terra-cotta color.

On standing, a small quantity of yellowish-gray fluid separated out, leaving a thick pultaceous mass at the bottom. The cyst lays between the peritoneal and muscular coats of the bowel and does not communicate with the interior of the duct. The inner walls of the cyst were quite smooth and glistening, except in one place where there is a small papillomatous projection. Microscopically, the cyst wall consists of laminated connective tissues with no epithelial

loning. The cyst contents consist of degenerating red blood corpuscles, granular debris, crystals of cholesterin and long bright colorless needle-like crystals and oil globules.

The smaller cyst in jejunum is similar in structure to the large one, but its contents are much more fluid, lighter in color and contain immense numbers of small glancing bodies visible to the naked eye. Microscopic examination shows crystals of cholesterin, granular debris and fat globules, separately and in clumps, and a few degenerated blood corpuscles, cyst in posterior wall of stomach, similar in structure to those before described, contains 160cc. of reddish color material similar to that in large cysts in jejunum. Another small cyst is found behind the posterior surface of the pyloric end of the stomach. The pancreas is greatly reduced in size and contains much fibrous connective tissues, chronic interstitial pancreatitis. The distal end of the pancreatic duct was dilated to seven-eighths of an inch in diameter. It assumes its normal size two inches from the duodenal opening.

Case 8. "Malignant Pleurisy." A. M., aged fifty-six, consulted Dr. Fotheringham Oct. 25th, 1896. Patient had large effusion in right pleural cavity. Aspiration Nov. 7th, removed fifty-six ounces of ruddy, straw-colored fluid. The pleural cavity refilled, requiring aspiration again on Nov. 21st and 27th. Eighty ounces of fluid were removed each time. Little relief from dyspnœa occurred and the heart remained in its displaced condition. Two weeks after the last aspiration a small nodule appeared at seat of puncture in the sixth interspace in the right mid-axillary line. From this nodule a chain of enlarged lymphatic glands soon appeared, running up toward the axilla, and the axillary glands became involved. Temperature was usually slightly sub-normal and never went above 100F. Pulse, 80 to 100. Gradually asthenia developed; patient dying March 30, 1897.

Post mortem examination: Heart displaced to the left and hypertrophied, especially the right side. Left lung large and emphysematous. Left pleural cavity contained twenty-five ounces of serous fluid. Right lung completely compressed, except at apex. Lower lobe calcified. Right pleura-parietal pleura almost normal; visceral pleura entirely changed. Lung covered with a layer of whitish nodulated new growth one-quarter to three-quarters inch in thickness. At the anterior margin it formed a matted mass firmly adherent to the sternum and cartilages from the third cartilage down to the diaphragm which was infiltrated and fixed by the growth. The mass in the chest was directly continuous through the parietal pleura with the nodule in the sixth interspace before mentioned. In the lower posterior part of pleural cavity was a space containing about twelve ounces of fluid. Liver was large and displaced downward. Its highest point was on a level with the sixth rib. Kidneys showed interstitial nephritis. Microscopic examination of growth in pleura, showed the structure of an endothelioma consisting of long slit-like lymphatic spaces surrounded by dense connective tissue and filled with large flat endothelial cells.

Case 9. "Malignant Endocarditis." James H., aged 38, taken suddenly ill with abdominal pain, vomiting, diarrhœa, chills and fever, the latter reaching as high as 104 2-5. Physical examination revealed the presence of aortic and mitral murmurs. Patient died after fourteen days' illness. Cultures from blood during life remained sterile. The patient was suffering from syphilis acquired six months before his fatal illness, otherwise had always been healthy. Autopsy seven hours *postmortem*.—Anatomica diagnosis,—catarrhal appendicitis with muco-purulent collection; thrombosis of portal vein; malignant en-

docarditis, with vegetations on and perforations of aortic segments; infractions in spleen. Parenchymatous degeneration in viscera; micrococcus lanceolatus was found in coverslips and cultures from the vegetations. Cultures from spleen, peritoneal cavity and heart's blood remained sterile.

"Aneurism of sinus of Valsalva." Capt. P., aged 52. Family history good. Personal history: salt water sailor from twelve years of age. Always healthy. No syphilis. Was robust until autumn of 1896.. Made severe exertion, carrying a heavy weight over a sandy beach. Suddenly felt severe pain in left side. Became faint and lay down. Was carried to his hotel. Remained there twenty-four hours. Being in a remote place, he was removed to Collingwood on a steamer. Remained there three days when he came to Toronto by rail, arriving at 8.30 p.m., feeling very weak. Dr. Davison was sent for, who found his pulse 246, temperature 102 3-5; patient feeling very weak. This condition continued with gradually decreasing severity for fourteen days when he was allowed to sit up, and in another fortnight was walking about. During winter he had no employment but went about enjoying good health. In March, he went to work in Manitoulin Island. His employment required severe exertion. His food was coarse, consisting largely of pork and beans. He felt fairly well for three weeks, when indigestion and symptoms of sudden collapse appeared. He returned to Toronto, the journey requiring two days. When seen by his physician, his pulse was 196; temperature, normal. He had gastric disturbance with much flatulence. He had attacks of peculiar respiration, accompanied by a staring look, a stretching out of the hands and arms, an extension of the head and an appearance of great distress. During these spells, there was partial loss of consciousness and the heart beat was imperceptible with the stethoscope. They reached from 40 to 50 a second and recurred at intervals of ten minutes. Again he would go twelve hours without an attack. They were so severe that dissolution appeared imminent. For twenty-four hours before death, he felt much better and conversed freely.

Dr. R. J. Dwyer, of Hospital, Toronto, presented a number of pathological specimens.

No. 1.—The right kidney with the ureter double throughout its upper two-thirds, then merging into a single, which opens into the bladder normally.

No. 2.—"Cancer of the cardiac end of the stomach." A. M., aged 56. Ill eight months. Vomiting and emaciation were the prominent symptoms Careful examination showed no tumor, and there was no special tenderness anywhere over the abdomen. Patient was in the hospital six weeks. During that time the abdomen was explored and the diagnosis of carcinoma disputed. There was recovery from the operation without any incident. The emaciation and vomiting continued and increased in severity, and death ensued. *Post mortem:* The abdominal wound was healed; there were numerous adhesions around it. The stomach was small and empty. A nodular mass surrounded two-fifths of the circumference and lay just within the cardiac orifice. From this branch branches radiated along the greater curvature. The left third of the mucuous coat was thickened and much inflamed. The growth pretty well obstructed the cardia. The œsophagus was dilated considerably above the cardia. Nothwithstanding this the stomach had been frequently washed, and continued until five or six weeks of his death. No other lesion was discovered.

No. 3.—"Kidney, atrophied and cystic with complete loss of renal tissue, and a number of calculi occupying the calices." This specimen was from a man aged 45, who was admitted to St. Michael's hospital two

months before his death, suffering from considerable pain in the chest with profuse, offensive expectoration. Physical examination showed deep seated dull area in the left lung above and in front. Septic pneumonia was diagnosed. In the course of three or four weeks, signs of a cavity were detected. He recovered to a certain extent, the expectoration, pain and fever abating. He gained in weight, and was apparently as well as before. At this time he gave a history of having had his throat cut a year before, and an infected sinus was discovered opposite the upper border of the thyroid cartilage. A piece of the cartilage had been extracted from the sinus after which it healed up. Several weeks after this the condition of the lung again became serious and signs of rapid excavation were noted. He died from a sudden severe hæmorrhage. No history of renal disease was ever obtained.

Post mortem—The whole of the upper lobe of the left lung and a portion of the lower was excavated, forming an enormous smooth-walled cavity. In the upper part of it a vessel the size of a crow's quill was found perforated. There were no other signs.

No 4.—Kidneys and Bladder, and an enlarged prostrate from an old man dying of pneumonia. Cystitis was present with its usual signs—was present for several days before death. The bladder shows a large sacculation at the fundus, this sacculation being separated from the bladder by a narrow opening.

No 5.—Kidney, Ureter and Bladder. The patient was a young man aged nineteen. He was admitted to the hospital suffering from pyo-nephrosis. He had been ailing for several months but not acutely until about two weeks before his admission. He suffered from frequent and painful micturition. Pus was found in the urine. A large fluctuating tumor developed in the right loin. Incision was made through the parieties and the tumor aspirated. He never recovered from the anæsthetic. *Post mortem* twelve hours after death showed the right kidney enormously dilated and full of pus. There was scarcely any trace of kidney tissue left. The ureter was dilated to the size of a small intestine and was tortuous and thickened. The most careful examination failed to find kidney on the other side. The any dilatation of the ureter extended to the wall of the bladder and then diminished at the orifice to the natural size.

The Section then proceeded to read the papers submitted to it. Mr. Alexis Thompson, in his paper on Epithelioma of Penis, referred to the commonest sites of the disease. The dorsum of the glans being the most frequent. The richness of the blood supply offered considerable resistance to deep extension. Extension took place by continuous infection, by outlying or secondary nodules, or by the lymphatics along the dorsum. This last point was important in regard to amputation by the dorsal flap. Fortunately the disease was generally confined to the region near the origin of disease. With a lantern he showed sections of Epithelioma, mostly of the squamous variety. Professor Boyce asked if endothelioma had been seen in the same locality. Mr. Thompson could not say that it had.

The President presented Professor Goldman's paper on Early Infection of the Blood Vessels in Carcinoma and Sarcoma. Eosin was used in staining the vessel walls. Sections were shewn of infection of the vessel wall with elevation of the endothlium by cancer cells, going on to rupture through the vessel wall and extension. The President said that he had seen similar apparances in Sarcomata.

Dr. Kanthack's paper on "Cancer of the Testicle," was presented by Dr. Hunter; the drawings had been made by Sir James Paget. Dr. Hunter showed sections of carcinoma of the testicle, also carcinomatous masses attached to the inferior vena cava, and

also carcinomatous masses in the lung. The tumor had been taken for enchondroma, but was shown to be columnar-celled epithhelioma. The case is accepted by Virchow in the literature as malignant enchondroma, but had now been proved to be epithelioma with cartilaginous growth about the cancer, a form recognized by Ziegler and others. Dr. Barker asked if it could not be a teratoma, and Professor Boyce whether cartilage or cancer predominated. Dr. Hunter remarked that the main value of the specimen and paper was historical, and that he could not in the absence of the author answer the questions.

The President read a paper by Mr. H. J. Stiles on "Evolution of Cancer Bodies," which sought to prove that the well known bodies were nothing but degeneration forms of cancer cells, especially of the nucleus. Discussions have been numerous on this question. Those holding that these bodies were parasitic claim that they stained quite differently to cancer cells, and therefore were probably not cancerous. He claimed to have seen closely allied transitional forms, from the ordinary cancer cells to the cancer bodies. Sections of cancer cells were shown with a nucleus swelling and losing its chromatin. The capsule of the so-called parasite was mainly perinuclear protoplasm. The nucleolus persisting formed the necleus of the parasite so-called. The bodies were not endogenous cell forms. Ruffer's bodies have been seen in meningitis, and proved to be degenerated leucocytes, The sections were all from carcinoma of the breast. Dr. Welch had always thought that the resemblance between cancer bodies and genuine parasites was very slight, and he had come to the same conclusion as Dr. Stiles. Besides there was always the difficulty of explaining the dissimilarity between primary and secondary nodules.

Dr. S. E. Hodenpyle read a paper on the occurrence of typhoid fever without lesions of the small intestine. Cases were cited of death from typhoid fever without lesion in the small intestine or only swelling of Peyer's patches. Others with lesions in the colon only, and cases with no intestinal lesion whatsoever, the diagnosis being made by the presence of bacilli in the spleen. Dr. Welch mentioned a case of typhoid fever without any intestinal lesions, but the bile revealed typhoid bacilli. The bacilli could probably exist in the bile for months. Dr. Hunter observed that it was interesting to learn that the bacilli had been found in the gall bladder; a number of such cases were on record. Dr. Martin mentioned a case in the Royal Victoria Hospital, Montreal, with exceedingly slight lesions in the intestine but bacilli in the bile.

Professor Boyce read Dr. Patrick Manson's paper on "Filaria sanguinis hominis nocturna," a new species seen in Demerara. Dr. H. B. Anderson read a paper on "Multiple Cysts of Stomach and Intestine." Professor Van Gleeson read a paper on "Hæmatompelopore in Connection with Syringomyelia." He reported several cases of trauma to the spinal cord, followed by the production of tubular canals starting at the site of the trauma. These he explained as the result of hæmorrhage into the cord. He recorded also one case of spontaneous hæmorrhage. This was often mistaken for syringomyelia, and described as a case of sudden onset. Professor Boyce questioned the hæmorrhage origin. Dr. Barker read a paper on "Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis." Degenerative changes were shown (in sections) in the anterior horn cells in cerebro-spinal meningitis very similar to cell changes seen after section of the facial nerve. Dr. Van Glesson and Professor Boyce expressed great interest in the paper, which Professor Boyce confirmed in some points.

PUBLIC MEDICINE SECTION.

The President, E. P. Lachapelle (Montreal), opened by giving an address on the progress of Sanitation in Canada, commencing with an interesting account of hygienic measures under the French regime, one of the first measures being the promulgation of an ordinance by Louis XIV., establishing for the civil state a system of registration still in force in the Province of Quebec. Regulations concerning the food supply were enforced in Quebec a few years later,—measures being taken to secure that the inhabitants were provided with good meat. Passing to sanitation under the British rule, he pointed out that for some years nothing was done, but in 1795 measures of inspection and quarantine were adopted to prevent the importation into the colony of typhus fever, then raging in Ireland. Government medical vaccinators were appointed from 1815 to 1821, and vaccination encouraged but not made compulsory. The appearance of cholera in 1822 led to special measures being undertaking, and in 1849, on another invasion of the disease, a statutory law was enforced which was utilised in 1855 during the epidemic of variole. With the advent of the Confederation in 1867, sanitary legislation became more systematized, and Dr. Lachapelle passed in review the various measures which then and since have been enforced under the heads of Federal Sanitation and Provincial Sanitation, and shewed that with regard to sanitary matters, Canada is advancing rapidly since the formation, in 1880, of the Provincial Board of Health.

Several papers were then read referring to mandatory measures in dealing with measles, whooping-cough, tuberculosis and leprosy. The readers were Drs. P. H. Bryce, Secretary of the Provincial Board of Health, Ontario, Dr. C. O. Probst, Secretary, State Board of Health, Ohio; Dr. H. Handford, of Nottingham, England.

Dr. Bryce's paper was a lengthy one. He discussed measles, scarlet fever, whooping cough and tuberculosis. After citing statistics, he advocated the closing of schools when scarlet fever and measles were prevalent in epidemic form. The use of notification cards and isolation were dwelt on at length. He was in favor of compulsory measures, and the early removal to hospital in cases of measles and scarlet fever. He spoke of leprosy in the United States of America as having caused 16 deaths. In Canada it did not seem to have any significance He knew of and referred to the leper asylum at Tracadie, and said that if it was contagious segregation was necessary. With regard to the isolation of tuberculosis, the danger was from the bacilli: they might live for a year. Houses which had been occupied by consumptives should be disinfected. Tubercolosis was a contagious disease and great care was necessary. The sputum should be disinfected.

Dr. Probst went over much of the same ground. For men in the American navy he recommended early recognition of the disease, and special hospitals. Any plan for the prevention of tuberculosis must consider the liability of animals to infection and the question of infected milk. Regarding the care of herds of cows, the healthy animals should be separated from the unhealthy. Calves born of unhealthy cows should be separated and fed on healthy milk. The bad ventilation of stables was responsible for much of the disease among cattle.

Dr. Handford, of Nottingham, in his opening remarks said that there was no want of legislation in England regarding such matters, but they did want a Minister of Public Health. Many advances must be made in hygiene and public health. Regarding mandatory measures in England compulsion had completely failed. The people must be educated, their confidence must be gained. The education of the wealthy in such matters

was as necessary as the education of the poor. In Nottingham no case of scarlet fever had ever been removed to a public hospital on a magistrate's order. As a result of eight or ten years' observation 90 per cent. of the cases of scarlet fever were now voluntarily sent to hospitals in his district.

Dr. Wm. Oldright, Toronto, spoke regarding sanitary regulations and compulsion. Educational measures were necessary. He dwelt on the value of education and persuasion. In England measles was a more severe disease than in this country, while there whooping cough was less severe than in Canada. Children with whooping cough were seen in street cars and on steamboats, their parents paying but little attention to it. Nothing, he remarked, had been said about consumptives at health resorts. The rooms occupied by such patients were not disinfected, and hence arose a great source of danger—such as when persons travelling infect sleeping cars, their blankets and their rugs.

Dr. Wolfred Nelson, of New York, formerly of Montreal and Panama, referred briefly to his experience of leprosy in the Isthmus of Panama. Speaking generally, he deemed it non-contagious and referred to the 1893 Pan-American Medical Congress in Washington, where the matter was disussed fully when the late Dr. Beaven Rake, Dr. Liceaga, of Mexico, and others quite familiar with leprosy were present. There he (Dr. Nelson) had asked the Section on climatology, demography and quarantine not to countenance any legislation tending to hamper an unfortunate class of sufferers in no wise dangerous to the public; out of fifty delegates then assembled forty-eight voted for his motion.

Dr. Carr, of England, suggested that as the Section seemed to be in accord in essentials, it might be well to point out the differences. All agreed on the advantages of isolating cases of scarlet fever and of phthisis. He deemed ventilation very necessary.

Sir James Grant, of Ottawa, referred to scarlet fever in Ottawa in the days before they had drainage there, and cited a case where scarlatina maligna killed four in one family in two days. He traced it to a damp cellar and defective drainage. He dwelt at length on scarlatinal infection and glandular absorption.

The question of sewage was discussed by G. Janin, of Montreal.

In a concise manner the paper described the various attempts which had been made in other countries to purify sewage with the indifferent results attending the same. This led up to purification through filtration or irrigation of permeable soil, a system of which Mr. Janin is an enthusiastic exponent, and the effects of which in France and Germany were set forth as abundantly successful, both from the hygienic and economical point of view. There was a great deal of technical detail, but the chief features are that the town or city or municipality secures a certain amount of land into which the sewage, by means of ditches, is poured. The porous nature of the soil permits percolation, while at the same time the chemical properties of the earth render the sewage matter innocuous in its passage, the result being that the effluent when it reaches the stream or river into which it is to finally empty itself, is free from organic impurity and does not in the slightest degree contaminate the water with which it mingles. As for the economical results, it was pointed out that in France and Germany great profits had accrued from land so treated, the crops being nearly double and the greatest eagerness being displayed to acquire purification land as it is called in the neighborhood of large cities. If there had been any failures in the instances in which the system of filtration or irrigation had been employed it was not owing to the principle involved in the system itself, but to an improper application of those

principles. The system was approved by all the great sanitarians of France, Germany and England, and he instanced the case of England particularly, because in that densely populated country with its large cities and the comparative smallness of its rivers it had been found necessary to pass a River Pollution Act, and several systems had been tried to comply with the terms of that Act, soil purification being finally accepted by those in authority as the best and indeed the only system promising success. There was a multitude of detail touching the chemical action of the soil upon the sewage, and the rendering of the effluent innocuous which need not be given here.

Dr. Littlejohn, England, thoroughly agreed with Mr. Janin that the system which he had described was the only one from which complete success could be expected. No doubt the urgency of this matter was not so great in Canada and the United States as it was in England, but still, if he might advise, he would say that now was the time to begin to make provision for the purification of their sewage in large centres of population, while their beautiful rivers and lakes had not become, as the rivers and lakes in older countries had been allowed to become, simply sewers, past cure or hope. The passing of the Rivers' Pollution Act in England made it incumbent upon local authorities to exert themselves to devise a cheme for sewage purification. Indeed, the local government board had brought pressure to bear upon the municipal authorities, with the result that several experiments had been tried, such as precipitation, but that which had given most satisfaction was the soil irrigation, as had been set forth by Mr. Janin. The difficulty, however, in England was that land was enormously dear—so dear, indeed, as to preclude the possibility of its being purchased in many instances—certainly in the case of land situated close to large centres of population—by the municipal authorities. Land was, he should say, still comparatively cheap in this country, and he thought now was their opportunity to provide for the future.

Dr. Bryce, of Toronto, mentioned the case of the action of the asylum authorities of London, Ontario, where the experiment of sewer purification by the soil had been completely successful on the crops raised upon the land thus irrigated, being the best he had ever seen, and averaging a value of three hundred dollars per acre, wholesale price. Dr. Bryce also testified that the running of the water was not interfered with by our winter climate, a statement which gave the president, Dr. Lachapelle, much satisfaction because the latter while holding that they in Canada must grapple with this question—and the sooner the better—was not sure whether this system would be suitable for our climate. Dr. DeMartigny also explained that in several of the towns in northern France and Germany the experiment had been successfully carried out in the winter when the frost was three feet deep in the ground, while the crops resulting from the land thus used were wonderful in their increase.

Dr. Probst, Ohio, said that in the United States they would have to face this question, for already many of their rivers were polluted by sewage; Dr. Scrader, Iowa, said that in his part they were looking for illumination upon the subject; while Dr. Hutchinson, Buffalo, remarked that after all, they should give the bacillus his due, for were it not for the purifying action of the micro-organisms in the soil this experiment or irrigation would be a dead failure, resulting in the poisoning of the soil and the contamination of the district with disease germs. They fought the bacillus on the one side; on the other, he was an ally and helper.

Dr. Reynolds, Chicago, said that as most of their rivers were sewers already, the question was whether it

would not be better to keep them sewers and look out for another water supply, but to this Dr. Johnson, Glasgow, observed, that the river Clyde, which had been allowed to become polluted with the result that the water supply had to be found elsewhere, had become more and more of a sewer until at the present time its offensiveness was such that the corporation were now thinking out a scheme involving several millions of pounds sterling, for its purification.

Dr. Montizāmbert opened this important discussion on quarantines. His paper was of more than technical interest and contained information of considerable importance to the general public. He said:

"The general consideration of infectious disease in connection with the subject of this discussion divides itself naturally under two heads. The prevention of disease from without getting into the country, and the dealing with it once it has entered in. A system of arresting disease at the coast and frontier entrances, and a system of preparedness in the interior communities. Neither of these is sufficient without the other. Coast quarantines and inland health organizations form the double line of sanitary defence; or to borrow an illustration from the game of cricket, the coast quarantine may be compared to the wicket-keeper and the inland health board to the long-stop. The interior communities throughout the length and breadth of the land have an interest, and a very close and vital interest, indeed, in the fittings and working of the quarantine service at the various ports of entry. But confidence in a quarantine system, however perfected, must never be allowed to lull us into a false sense of security to the neglect of striving ever more and more towards the sanitary improvement of the cities, villages and districts in which we dwell.

From the long period of incubation of some of the infectious diseases, and the relative shortness of the voyage from many ports outside the country, occasional cases of infectious disease in the stage of incubation, and the micro organisms of disease lurking in unsuspected clothing or merchandise, may pass from time to time, in an invisible and unrecognizable stage and condition, the most efficient quarantine that is practicably possible. This cannot be entirely avoided without such routine detention of vessels and passengers at the ports of arrival, such routine disinfection of all clothing and merchandise from abroad, and such consequent interference with travel and traffic as would be altogether unjustifiable and impracticable. Quarantines must not be expected to do the impossible; nor must they be leant upon as an excuse for lessened effort inland.

But, admitting this, they certainly may be depended upon for dealing with actual cases of infectious disease, with infected vessels and effects and with those suspected of being infected. In this way they strain out and protect the country from a very large percentage indeed of the exotic disease which threatens it from time to time. And thus they do a great and invaluable work.

LACK OF PUBLIC APPRECIATION.

And it is a work that is, perhaps, less known to, and appreciated by, the public than it should be. This is of the nature of things for all preventive work, the very success of which leads to negative rather than positive results. As long as the country is free from epidemic disease no one has occasion to stop to ask why this is so, or to think of the work being done at the quarantines. The one instance in, perhaps, one thousand in which a future case of disease gets past the quarantine in the unrecognizable period of incubation, and subsequently, develops inland, forms, naturally, the subject of widespread comment by the newspapers and the general public. The other 999 instances in which infectious disease is

quietly arrested and stamped out at the quarantines pass, equally naturally unnoticed, unheralded and unsung. The quarantine regulations of Canada are framed upon the same modern general principles as are those of the United Kingdom, as far as they can be made to meet the peculiar conditions of this country. The principles upon which our regulations are founded are immediate inspection, and, when required, prompt disinfection and isolation, with notification inland to precede the passengers. In them there is no survival of that old routine time-detention of healthy vessels from which the modern service has inherited nothing but its most unfortunate and misleading name.

Differences Between Canadian and British Practice.

In the application of these principles our differences from the practice in the United Kingdom, as laid down in the reports of the British delegates to the International Sanitary Conferences of Dresden, 1893, and Venice, 1897, and in the regulations of the Local Government Board of November 9th, 1896, are mainly in three respects, and these are due to the different conditions of this new and extensive country.

In the first place, healthy persons arriving at our ports in infected vessels may be held under "observation" at our quarantines during the accepted period of the incubation of the disease in question from the ascertained date of last possible exposure. In Great Britain, from her comparative smallness in area, the number of her ports, the extent of her shipping, the almost continuous influx of passengers from the continent, the shortness and compactness of her railway system, the completeness of her inland sanitary organizations, and the perfection to which the sanitary condition of the homes of our people have been brought, this precautionary "observation" at the port of arrival is replaced by "surveillance" at the place of destination.

In Great Britain the ports are so numerous that to equip and maintain quarantines at them all would probably cost more than the average annual expense, in money, of letting in disease and fighting it inland; in Canada there are practically but four sea-gates of passenger entry from abroad: St. John, Halifax, and the St. Lawrence on the Atlantic side, and the Straits of Fuca on the Pacific side. In Great Britain the rapid crossing in a few hours of passengers from the continent offers no parallel conditions for the spread of disease amongst such passengers to those obtaining in an infected vessel, possibly crowded with immigrants, during a passage of nearly three weeks from Asia, or one of more than a week from Europe to Canada. In Great Britain the place of destination is presumably reached within the first day of landing; in Canada it may not be reached until after a week or more of continuous railroad travelling. In Great Britain it may be possible to isolate suspects in separate compartments of the divided railway carriages during the short journey from port to destination; in Canada during the possible many days' travel in our large and undivided cars no such isolation would be practicable; but with the constant coming and going of passengers into and out of the car at every station and cross-line any infectious disease would be liable to be spread broadcast through the country. In Great Britain the inland sanitary organizations and the sanitary condition of the homes of the people are considerably nearer perfection than they are, as yet, in this country.

For such reasons as these Canada cannot depend to the same extent as Great Britain, upon inland "surveilliance." And "observation" of suspects at quarantine must form part of our system of protection. Accordingly in becoming a party to the

Dresden Sanitary convention this country accepted its conclusions fully, and without the reservation made by Great Britain in her own case, that healthy persons landing from infected ships should not be detained.

DISINFECTION OF MAIL MATTER.

In the second place, under the regulations in the United Kingdom no mail matter, except that by parcel post, is liable to detention or disinfection; in Canada disinfection of the mails is not forbidden, and is sometimes considered necessary. Notably is this the case, for instance, for the local mail arriving at Victoria from China. But little is known of the sanitary conditions in the interior of China, and that little is anything but reassuring; cholera, the bubonic plague and small-pox being usually present there. The disinfection of the mails from that country is, therefore, considered advisable, especially in epidemic seasons, before their distribution throughout the "Chinatowns" of Victoria, Vancouver and other cities.

In the third place the regulations of the Local Government Board for ports in the United Kingdom limit the term "infected" to infected with cholera, yellow fever or plague.

Under the Canadian regulations actual cases of any of the infectious diseases are removable at quarantine so as to prevent the importation of new cases, even of the minor diseases, to become fresh centres for the spread of infection throughout our country. And the arrival of all classes of infectious disease is notified inland from our coast quarantines. Under this head perhaps the most noteworthy difference between the two countries is with regard to small-pox. In the Canadian regulations small-pox is included amongst the graver forms of infectious disease, and there are indeed special regulations concerning it. According to the English regulations, and the English usage, as reported to me, a vessel arriving at a port of the United Kingdom with smallpox on board, is not considered an infected vessel at all. Probably this is attributable to the theoretical protection of the English people under the Compulsory Vaccination Act Yet the somewhat extensive outbreaks of the disease which occur from time to time, such as that recently in Gloucester, would seem to indicate that the importation of fresh centres of this disease is not without its danger even to Great Britain. In Canada the protection of the people by vaccination is not sufficiently complete and general to justify us in excluding smallpox from our meaning of the term "infected" as applicable to vessels and persons arriving at our seaports.

These are the chief, if not indeed the only, points in which the Canadian quarantine regulations and usage differ from those of the United Kingdom. And they are necessitated, as I trust I have established, by the different conditions of this country.

For the rest, our regulations are based on inspection, prompt disinfection, isolation and notification inland. They are designed to secure the maximum protection of the public health, with the minimum interference with travel and traffic,

With regard to our minor ports, and our land frontiers, we have regulations which can be fully amplified should an emergency so require. But with respect to the importation of disease from Europe, Asia, Central and South America. etc., via the United States and across the frontier, we put our main dependence upon their protection of themselves by the well-worked quarantines of our southern neighbor, such as those of Boston, New York, Portland and New Orleans, and their admirable national quarantine service under the able administration of Surgeon-General Wyman, who is to join with me in the opening of this discussion.

In conclusion, I beg leave to submit and to maintain that the Canadian

quarantine system, as at present conducted, is certainly of most unquestionable utility to this country. (Applause.)

Dr. Wymans, superintendent of the Quarantine and Hospital Service, Washington, D.C., described the regulations in force in the United States, and Dr. J. A. Duncan, Secretary of the Provincial Board of Health, British Columbia, submitted recommendations as to the disinfection and quarantining of Chinese immigrants landing at the Pacific Coast. He suggested that this work could be best done in the Chinese ports before the immigrants went on board ship.

A discussion followed, in which several English experts took part. It was generally agreed that the difference between the English and Canadian regulation was accounted for by the different conditions prevailing, as Dr. Montizambert had pointed out.

The other papers read in this section were:—

Experiments in household disinfection, by Dr. Wyatt Johnston, bacteriologist Board of Health of the Province of Quebec.

Some alleged dangers of vaccination and their prevention, by Dr. Monckton Copeman, medical inspector to the Local Government Board of England.

The Relationship of the Health Officer to the Registration and Certification of deaths, by Dr. J. R. Kaye, M.O.H., to the West Riding Council of Yorkshire.

PHARMACOLOGY AND THERAPEUTIC SECTION.

The presidential address was delivered by D. J. Leech, of Manchester. The subject of his address was: "Past and Present Views as to the Actions of Medicines."

He said that in most countries an increasing interest was being shown in determining the action of remedies and their mode of action. This was manifest on this side of the Atlantic by the publication of the *Journal of Experimental Medicine*, in which pharmacology takes its place with physiology, pathology and medicine.

He said the basis of therapeutic practice was, or should be, observation, but therapeutic observations were only made on experiments which were the outcome of opinions held as to the nature of disease and cure, and these opinions were apt to bias judgment. Referring to medicine sixty years ago, he said one of the ablest pharmacologists of the day, Pereira, writing in 1836, had set forth general views with regard to the action of medicines which were for the most part accepted now. They acted usually, he held, after absorption, and being carried by the blood to the various parts of the body influenced the tissues and, therefore, the functions of the organs which from some unknown cause had a special attraction for them. The exact methods in which they thus influenced tissues, he considered, involved in impenetrable mystery. But the very basis of this view as to the action of medicine, their absorption from the stomach prior to the production of their efforts, was not accepted by many eminent observers. The discovery of the marked influence which may be produced, owing to the conduction of impressions in a direct or reflex manner, had greatly impressed men, and in the absence of knowledge we now have as to the nature of disease, there were difficulties in accepting the view with regard to absorption.

At that time the effects of drugs were very poorly understood. It was not until about eighteen years later that Headland proved that drugs, when taken internally, acted for the most part only when they had been absorbed. He drew attention to the necessity of distinguishing between the knowledge of the action of drugs in health and their effects in diseased condition. Pereira classified drugs according to the method

in which they influence organs; Headland, according to the manner in which they operated in disease. There was a widespread impression that the capillary system was the chief seat of action of most drugs. It was thought by some, for example, that the effects of mercury, iodine, as well as colchicum bark and antimony, were due chiefly to their action in contracting the capillaries; and to certain drugs, the exact effects of which were quite unknown, was attributed the power of stimulating the capillaries generally so as to cause increased flow of blood through them. The real power which many medicines had of dilating or contracting vessels was unsuspected, but increasing knowledge concerning the action of drugs did much more than relieve from the incubus of groundless theories and the consequences thereof. It had led to new and valuable knowledge as to the therapeutic uses of drugs which simple observation had failed to discover. Strychnine, for example, had long been used in paralysis and other ailments on account of its known action on the spinal cord, discovered by Majendi. Yet for many years it had not been employed in cardiac and respiratory troubles. When, however, it was shown by P. Rokitansky that it stimulates the respiratory centre, it was tried in pulmonary disease and it had since become one of the most largely used and important of respiratory stimulants in serious lung diseases.

Then again the new department of pharmacology added largely to our agents for treating disease. It was the powerful physiological influence found by experiment to be exerted on animals by the many active principles and drugs, discovered in the early part of this century, which led to the therapeutic trials of many, and the introduction of some into the pharmacopæia; and Brunton's discovery of the value of amyl nitrite, which was the outcome of the examination of the nitrites by Gagee, was a well-known instance of the value of pharmacological research. The knowledge of the method in which drugs had removed the cause of disease and counteracted its result did, indeed, greatly increase our power of lessening suffering; but something more was required. We could not combat the evils produced by disease at all essential points of attack, and our power to stay its progress was therefore very limited; and no way was made in the discovery of substances capable of generally antagonizing the functional changes and pathological condition characteristic of special forms of disease. No drugs were found acting as mercury does in syphillis and the method of action of this and also of some of the best known of our remedies had remained undetermined.

Referring to the influence of recent discoveries on pharmacology, he said that some, Dr. Saunby, for example, considered that though the recent discoveries with regard to pathogeneic organisms and their products opened us to an altogether new prospect in therapeutics, the system of pharmacology is about to pass into the limbo of the forgotten, and Professor Behring, of Marburg, thinks that in the light of serum treatment all our older views must vanish. Cellular pathology, he said, had become unfruitful for therapeutics. It is vain to treat the organs which are affected. Serum treatment, if we may judge from a *resume* of his paper, which was read at the recent "Congress *fur innere Medicin*" at Berlin, is alone efficient. Behring's view as to its nature was correct, its study is almost outside the boundaries of pharmacology, for he holds that antitoxin is not a definite chemical compound, but a quality inherent in certain albuminous substances as magnetism is in the magnetic oxide of iron. If antitoxins are powers, not substances, they were almost carried into a new world in which pharma-

cology, as at present understood, has no place. There seems little probability that the view of the enthusiastic supporter of serum treatment had any real foundation, and he did not know the reasoning which had led to its adoption. He should not attempt to controvert it. The general bearing however, of treatment by animal substances in their ideas as the methods in which medicines act, was worthy of consideration. His contention was that the new discoveries, whilst extending the domain of pharmacology, were in no way opposed to its long-established teaching that the various animal substances act on the same lines as the older remedies though they possess certain properties which are wanting or less apparent in the older drugs, and that even if the most sanguine expectation of their powers are fully borne out, the utility of the pharmacological knowledge already acquired would not be lessened. Speaking of the effect of thyroid of such substances, he said, the administration for the purpose of adding something to the blood which is not present in sufficient quantity, is not a departure from ordinary pharmacological ideas of therapeutic proceedings. In the case of the thyroid the substance which contains the active material giving its power, has been separated, and we should have an account of it from Dr. Hutchinson.

Referring to the effect of antitoxins, he said it had become clear that for the changes in functions and tissues we must look to the effects produced on the cell-protoplasms, and that influence was probably to some extent molecular. From what we know of the action of chemical compounds on protoplasm, it is quite possible that a compound, at times, forms some kind of chemical union with the protoplasm, and perhaps, even when there is no apparent chemical change as in the case of nitrite, there is one in reality. But there was also reason for thinking that the molecules of a compound might influence the protoplasm in a catalyptic manner. We know, for example, if dilute hydrochloric acid be added to an aqueous solution of methylacetate, it leads to the decomposition of the acetate into alcohol and acid without itself undergoing any alteration. It is quite possible the pharmacological agents may likewise influence chemical processes in the protoplasm without themselves being changed, but, however this might be, it seemed clear that the primary effect of remedial agents is exerted through their influence on cell protoplasms, the nutritional processes of which are altered with the result that the tissues into which the protoplasms enter is altered in function. It was easy to understand the unstable albuminoid bodies related in composition to the protoplasm itself, was likely to have special influence in producing those changes which lead to immunity and in causing the formation of antitoxins, which substances of a somewhat similar chemical composition had not.

Erlich stated that toxalbumins, abrin and ricin derived from castor oil and jequirity seeds only cause immunity the formation of an antitoxin in the blood which protects from the poisonous influence of these two substances. The action of new animal subtances seemed not dissimilar from that of our older remedies. But their powers widened their ideas concerning the methods in which medicines may act. They point also to possible explanations of much which had been hitherto inscrutable. May it be, as had been suggested, that drugs do something more than influence molecular conditions; that they cause the production of something which is itself, an active agent. That for example, in the cause of mercury, it is not the metal itself which antagonizes the syphilitic poison, but something which it causes the protoplasm to produce and pour into the circulation. The essayist then referred to the subjects which

were to come under discussion in the section.

"The Treatment of Insomnia." The discussion on the treatment of insomnia was then opened by Dr. C. K. Clarke, Kingston, Ont., who spoke on the general treatment. After dealing with the physiology of sleep, and Howell's recent researches in particular, he proceeded to discuss the treatment of insomnia in various conditions. Drug treatment in general was deprecated. In acute mania the warm bath (104° F.) with cold applications to the head, and in neurasthenia massage, frictions, etc., were advocated. Stress was laid on McFarlane's view of sleeplessness as a bad habit, and regularity in the time of going to bed was recommended. Hot milk and beer were advised as adjuncts. In conclusion, the insomnia of toxæmias and that accompanying surgical disorders was considered. Dr. R W. Wilcox, New York, then dealt with the mode of action of hypnotics. Howell's "Ramon y Cajal's" and Rabl Ruckhard's views of the physiology of sleep were treated of in detail and the action of alcoholic radicles, chlorine in organic combination, etc., was alluded to. The treatment of insomnia by drugs was then considered. Of vegetable narcotics, pellotine was regarded with favor; his experience with amyelene hydrate, nethylal, paraldehyde, chloral, chloralamide, sulphonal, trional, tetronal and urethane, was given, and his paper closed with a comparison of paraldehyde, chloralamide pellotine, and trional, as regards potency, rapidity and duration of action, habituation and safety.

The effects of and contra-indications to the use of hypnotics were then considered by Dr. A. McPhedran. The physiology and etiology of sleeplessness were first summarized, and the ill effects of individual drugs subsequently dealt with. Hypnotism was recommended to be given rarely, and only when other means have failed.

Dr. Edis, Jamaica Plains, contributed a paper on this subject and dwelt on the value of gentle fatigue.

Prof. Richet, Paris, gave an excellent description of the pharmacology of chloralose, and the discussion was continued by Drs. D. MacAllister, Saundby, Cushny, Barnes, MacCallum, Learned, Campbell, Muir, Brookhouse, Whitla, Rayner, Smith, Atkinson, and the President. There was a concensus of opinion that hypnotics should only be used as a last resource Chloral was deprecated by the majority, and sulphonal also received some strictures. Dr. Donald MacAllister confined his remarks to the insomnia occurring in otherwise healthy students, and strongly recommended what he termed the air bath, the wet sack, and as drugs strychnine in coffee and magnesium sulphate. Dr. Saundby believed the older hypnotics were the best, and Dr. Learned dwelt in detail with a physical mode of treatment he had found beneficial Dr. Whitla regarded the use of digitalis, with chloral, etc., as useless, and strongly recommended chloral as an hypnotic. Dr. Leech closed the debate by a few pregnant remarks on the treatment ol sleeplessness in the old and the middle-aged. During the meeting a collection of specimens of Cannabis Indica and its preparations were laid out for inspection. These will also remain on view during the discussion on Thursday.

Dr. J. T. Fotheringham read a paper before the section in Pharmacology and Therapeutics, entitled, "Prescribing of Proprietary instead of Pharmacopæal Preparations." He chose this subject first. because of the tendency of the profession to desert the pharmacopæia; second, because they were almost a unit in condemnation of nostrums and panaceas and of all attempts to turn private profit either the needs of the suffering or the talents and experience of the clinician and investigator.

Causes of the Practice.

These were, first, the insistence of manufacturers to vaunt their wares with purely commercial motives; second, the clamor of the public for

more palatable medication ; third, the bad influence of a large section of the medical press that were more a set of advertising media which were stuffed with all sorts of puffs from men signing M.D., and which were neither fit for the physician's waste paper basket nor, as the French say, "Pour metrre en cabinet;" fourth, the multiplicity of other subjects on the curriculum, of study, which did not leave the student enough time for the study of prescribing. So that upon teachers of therapeutics there lay a great responsibility in the maintenance of a wholesome conservatism.

The essayist defined a proprietary article to be "Anything, whether merely of a simple nutritive value or of actual medicinal properties, or of value in surgery, which either by a copyrighting of the name or by a patenting of the process of manufacture, is sought to be turned to the exclusive pecuniary advantage of any individual."

The essayist contended that medical men should resent, and, if possible, prevent any stealing of their brains, not that they demand a share in the profits, but that the public might have the fullest advantages and the individual only a legitimate commercial profit. It made one angry to hear of huge drug concerns making annual profits of forty per cent. on their capital when the suffering poor were by the system denied the necessities.

The essayist referred for a moment to the harm this centralization of trade was doing to the modern chemist. The lion's share of the profit went to the large institution, not to the retailer. We wish to point out that the interest of the physician were more nearly allied with those of the retailer than with the large manufacturers ; and that, therefore, we should not transfer our whole patronage to him and force the retail man to be merely handler of the goods of the richer rival.

The advantages and disadvantages of prescribing proprietary medicines were then pointed out. The advantage to the patient was, first, increased palatibility, uniformity of strength and dose, especially if the alkaloids were used ; but there was a disadvantage for, as a rule, they were not so good for the patient as the crude drug. The essayist held that it was the duty of the physician to preserve an attitude of independence with the retailer, making no favors and receiving none. He deprecated the habit some houses have of sending large samples of their wares to hospitals. Regarding the relation of the profession to the practice, Dr. Fotheringham contended that there should be only one opinion as to the use of compounds sold without a printed formula, and that was to entirely taboo them. Even where the formula was printed, one could not rest secure in the belief that the compound was as represented. And the worst of all was the practice of prescribing pills, triturates, etc., by their trade names.

"A Preliminary Report on the Action of Behring serum on Diseases not due to Kleb Lœffler's Bacillus," was the title of a paper by H. H. McCallum, M.D., London, Canada. The paper dealt with the unsatisfactory explanation of the action of Behring serum in diphtheria, and a doubt was cast on total and permanent specialization of defence in mycotic diseases. It was urged that nature could have no function or metabolic phenomena. She could not call to defence in times of peril. It suggested itself therefore to the writer of the paper that serumtherapy had a wider action on the organism than as an antitoxin, viz., an exciter of vital movement and lymphagagnic. This induced the writer to try the serum in other diseases than diphtheria, in contradistinction to a test on toxines. The writer had tried or was trying the serum in some forty cases and many diseases—viz., eight cases of pulmon-

ary tuberculosis, seven cases of local tuberculosis (renal, testicular, arthritic, meningeal, glandular and laryngeal), sciatica, lupus, retroperitoneal growth of doubtful origin, Hodgkin's disease, mediastinal growth, secondary pulmonary cancer, typoid fever, enlarged spleen, pelvic peritonitis, endometritis, appendicitis, crystitis, gonorrheal rheumatism, nephritis, leucoderma and sepsis. From three months' use of the serum the writer was inclined to think it favored assimilation, excretion and sleep. It increased the coagulability of the blood and was found valuable in hæmorrhages. The increased leucocytosis which followed its use gave a considerable degree of general defence against all diseases. Its action on insomnia was mentioned, but doubt was expressed as to its mode of action. It acted beneficial on tuberculosis, lupus, pelvic inflammation, appendicitis, the periadenitis and adenitis of cancer and Hodgkins' disease. It was claimed by the writer that in many cases symptoms like those of vaccination often developed, usually on the third dose, three days apart, yet the beneficial action could not be expected till after this period. Some claimed benefit from first dose, which usually set up reaction in the local lesion. He concluded by detailing its action on the several organs, and declaring his inability to give final judgment on the extent of its usefulness in general diseases. Three typhoid fever charts were shown in which Behring serum apparently shortened the course of the disease markedly.

"The Treatment of Syphilis." This section met jointly with the section of Dermatology to discuss the treatment of syphilis. The chair was taken by Dr. Leech. The subject was introduced by Dr. Whitla, who said that two drugs alone need be considered—mercury and the iodides. He regarded it as proved that mercury had a specific or curative effect on syphilis, and thought it best to limit his attention to the following points: (1) how mercury and the iodides are supposed to act; (2) when should mercurial treatment be started; especially should it be given in the primary stage? (3) the various methods for its routine administration, its dosage, and the length of time necessary for mercurial treatment; (4) the treatment of tertiary symptoms and congenital syphilis. The pharmacology of mercury—the mode of absorption especially when administered by inunction, elimination, etc., was considered. Mercury he regarded as a vital antidote to the syphilitic poison, and so long as the virus of syphilis remained, in the organism, mercury, he believed, would expend its force upon it without injury to the patient. This, he thought, gave a working hypothesis as regards dosage. The question of the bactericidal power of iodides in connection with Binz's view was dealt with, and their utility in the first and early second stages emphasised. The continuous and interrupted methods of administering mercury were treated at length, although it was stated that these could not be rigidly separated. The continuous method was favored by the speaker. He prescribed small does as early as possible. Routine treatment was deprecated. As a guide determining the effect of the mercury, the weight-chart was strongly recommended. Of the various modes of administration the method of inunction was most generally useful, although this possessed many disadvantages. Under ordinary circumstances small doses of mercurous iodides, Plummer's pill, etc., were sufficient. In the tertiary stage, Dr. Whitla advised pushing the iodides until the symptoms abated.

Dr. Nevins Hyde, Chicago, laid particular stress on the constitution of the individual. He believed that there were mild cases needing little or no treatment, and severe cases (mainly inherited) which seemed insusceptible to all treatment. Between these was

the mass of cases giving the most satisfactory results. The best effects were obtained where iodides were not used ; they were the remedies for the complications. Mr. Malcolm Morris divided syphilitics into those who took alcohol and those who did not. He had not seen good results from intra-muscular injections. The mercurial air bath in certain conditions (extensive ulcerations) was strongly to be recommended, and to this treatment inunction, warm baths, especially those of a stimulating character, were useful adjuncts. The combination of ammonia and sarsaparilla with iodides was beneficial. Dr. Hervieux spoke of the necessity of a more definite pathology, a view not shared by some subsequent speakers. Intra-muscular injections of soluble mercurial preparations were praised by Dr. Allan, New York, who also spoke of the virulence of secondary symptoms following extra-genital chancres. Dr Bulkley, New York, thought large doses of iodides unnecessary in the third stage if these drugs were combined with a small amount of mercury. The President, Dr. Leech, then closed the discussion by referring to the inutility of other drugs than mercury and iodine, and he agreed with Dr. Whitla in believing it often necesary to push iodides in the third stage of this disease. Combination of the iodides with ammonia was useful. Dr. Whitla, in reply, said that the whole secret of success in the treatment of syphilis was to get as much mercury into the system as possible without producing ill effects. He had not seen one case of harm resulting from the use of mercury in syphilis in his own practice. He criticized Dr. Allan's theory of the virulence of secondary symptoms in cases of extra-genital chancre (the absence of lymph glands in the neighborhood), and the discussion closed.

Dr. Cushing (Ann Arbor) then read a paper on the "Pharmacology of the Mammalian Heart." He demonstrated his method of experimenting, and showed tracings of the effect of aconite, digitalis, chloroform, alcohol, nitro-glycerine, etc. Dr. M. P. Jacobi (New York) spoke on this subject. Mr. Marshall (Cambridge) afterwards read a paper on "Heart Failure with Thickened Arteries," the outcome of some experiments on the antagonistic action of digitalis and the members of the nitrite series. Dr. H. A. Macallum spoke, and the proceedings terminated. The attendance was good throughout.

THE CLOSING.

Dr. Saundby, in moving a vote of thanks to Dr. Roddick, said he had been an ideal president from the first. He had taken the trouble to cross the Atlantic in the middle of the winter in order to facilitate their arrangements, and although they had been under some little difficulty in arranging the business owing to the distance, these difficulties had been smoothed over mainly by his courtesy and ability. He could say nothing too great in praise of the way in which he had presided over the meeting.

Dr. Parsons (the Treasurer) said it gave him the most profound satisfaction to be able thoroughly to endorse everything that had fallen from the lips of Dr. Saundby.

Dr. Roddick, in reply, said it had certainly been a source of great satisfaction to him to find that men like those who had spoken and knew the Association, should tell them that they had seen nothing very much better. He must not have all the credit; as a great deal of it was due to the honorary secretaries, Prof. Adami and Drs. Springle and Benoit, and to the chairmen and secretaries and members of the various committees.

THE ANNUAL MUSEUM.

One of the most valuable customs in connection with the British Medical Association is that of having what is known as the "Annual Museum." In this are collected the preparations and instruments of all classes and forms that have been introduced and invented for the better equipment of the physician in his fight against disease and death.

The remark of the late president in his address at the opening of the Museum, and of many other prominent members of the Association, went to show that undoubtedly the finest exhibit that had ever taken place under the auspices of the Association, had not occurred in the old land, but in that great colony, destined, we believe, to be the greatest factor in Greater Britain, our own country of Canada. That many physicians availed themselves of the opportunity presented to place themselves on the plane of progress, shown by the advanced scientific exhibits, from a bacteriological standpoint, of Parke, Davis & Company, Mulford and Paquin, was simply an indication how often pharmacology, supposedly the handmaiden of medicine, outstrips her mistress. Similarly in other branches, for anyone who listened to Dr. Kent, of Sharp & Dohme's, could not but feel how far the active physician is placed from an intimate acquintance with the pharmacopœia, and that in his busy life it is better to place reliance to-day on the great pharmaceutical houses, who are each others competitors and critics, than on the country drug store. It shows the distinctive trend of modern medicine, and our practitioners throughout the country need not feel offended if their path in therapeutics is occasionally indicated by the distinguished experts now in the laboratories of the leading drug firms.

Another notable feature is that many of the largest firms, where possible, seem to be trying to obtain the services of educated and well-equipped physicians in connection with their business. For instance, Drs. Wimmer and Roberts were to be met with in connection with Messrs. Armour & Company's exhibit, and the pleasure of viewing the exhibit was certainly not detracted from by having an intelligent explanation from one of the fraternity upon the newer developments of the extracts of the thyroids, adrenals, etc., with which the practising physician, unless he be a specialist or chemist, naturally has only a general acquaintance. The same might be said of Dr. Warner, of Messrs. Wampole & Company, who has done much able bacteriological and clinical work, who was present with microscope and slides to uphold practically his theories. Then Dr. Jones, with Messrs. Doliber, Goodale & Company's exhibit of Mellins' Food, was a walking encyclopædia on all questions pertaining to infants' foods and pediatrics generally. Dr. Wallis explained the merits of Messrs. Seabury & Johnson's antiseptic dressings and specialties. And last, but not least, must we mention that courtly Japanese gentleman, Professor Takamine, the inventor of the now world-famed "Taka-diastase," which is prepared under his direction by Parke, Davis & Company.

We have personally to thank these gentlemen, as well as the other representatives of the firms who had exhibits, for the many courtesies extended during the meeting, and for the opportunity given to obtain the material requisite for the notes which follow this important section of the annual meeting.

We are sure that of the many physicians who attended the exhibition not one had any cause to com-

plain, and that if they could be gathered together, they would cheerfully unite with us in tendering our hearty thanks for the courteous treatment received at the hands of the gentlemen of the Annual Museum.

The retiring president, Dr. Barnes, in the course of his remarks at the opening of the Exhibition, said, that in all his years' connection with the British Medical Association he had not seen a better arranged or more complete exhibition, and that the literary section was particularly noticeable.

This at once attracted our attention to this department. It was certainly a most interesting exhibit as representing the brains of the profession.

LEA BROS. & CO.

One section that always attracted the notables was that of Lea Bros. & Co., of Philadelphia. It was certainly representative of the firm, who for more than one hundred years have given the practioners of America the results of the investigations of the best minds in Europe, and who can to-day show upon their title pages such names as Black, Fothergill, Field, Edes, Berry, Jamieson, Hutchinson, Juler, Klein, Morris, Nettleship, Pye-Smith, Sutton, Treves and Yeo.

Messrs. Lea Bros. & Co. are particularly fortunate in having for their representatives in Canada the popular and well established firm of McAinsh & Kilgour, Confederation Bldg., Toronto, but after all the attention to one was the attention to all. The books were all allopathic and included such standard works of different firms as follows:

THE J. B. LIPPINCOTT CO.,

of Philadelphia, publishers, with a very attractive exhibit in charge of Mr. Chas. Roberts, of Montreal (well and favorably known to Ontario physicians) their Dominion representative. Among the many good things in their display are "The International Clinics," Norris and Olivers "System of Diseases of the Eye," Burnett's "System of Diseases of the Ear, Nose and Throat," Wood and Fitz's "Practice of Medicine," White and Martin's "Genito-Urinary and Venereal Diseases," Lippincott's "Medical Dictionary," Rotch's "Pediatrics," Keating & Coe's "Clinical Gynæcology," Dabosta's "Diagnosis," and many others included in their extensive catalogue.

MESSRS. BLAKISTON SON & CO.,

of Philadelphia, were in line with a display of medical books, which included the leading work of the day On the Practice of Medicine, by Prof. Tyson, of the University of Pa. A new work on diseases of the stomach, by John C. Hemmetor, M.B., M.D., Ph.D., Clinical Prof. of Medicine at the Baltimore Medical College; "Surgical Anatomy," with four hundred illustrations, all taken from dissections, and a work on Appendicitis, by Dr. Dower, and other works on Materia Medica and Therapeutics.

MESSRS. J. A. CARVETH & CO.

Toronto, had a very attractive and tastefully arranged exhibit of medical books, including publications of the leading British and American firms. Included in their display were such celebrated books as Clifford Allbutt's "System of Medicine," Frost's "Fundus Oculi," Treves' "System of Surgery," Smith's (Gregg) "Abd. Surgery," Parkes' "Surgery," Whitlaw and Becker's "Medical Jurisprudence," Bosworth's "Nose and Throat," Yeo's "Manual of Treatment," and many other celebrated works of reference. We were also pleased to see the energetic firm of J. A. Carveth & Co., Toronto, who have so long enjoyed a high reputation locally, therewith.

Of the English publishers we notice principally H. K. Lewis, Young J. Pentland and Macmillan.

H. K. LEWIS

who stands in the very front ranks of English publishers, has for his representative here a gentleman whom we have mentioned above, Mr. Roberts.

YOUNG J. PENTLAND

is represented by W. Drysdale & Co., Montreal, and have in their list "Diseases of the Heart and Thoracic Aorta," by Byrom Bromwell; Alexander Bruce's "Illustrations of the Nerve Tracts in the Mid or Third Brain;" James Carmichael's "Disease in Children;" W. Watson Cheyne's "Tuberculous Diseases of Bones and Joints;" Alexander Johnston's "Journal of Pathology and Bacteriology;" Kerr S. Keith's "Text-Book of Abdominal Surgery;" Sidney Martin's "Functional and Organic Diseases of the Stomach;" C. Sims Woodhead's "Practical Pathology."

PARKE, DAVIS & CO.,

Walkerville, Ont., home offices and laboratories, Detroit, Mich., branches at New York City, Kansas City, Baltimore and London, Eng., with distributing depots throughout the world, are the display signs to be prominently seen at the entrance, both on Stanley and Drummond streets, to the Victoria Skating Rink at the present time, the occasion being the exhibit of pharmaceutical products, surgical instruments, etc., held under the auspices of the British Medical Association in the Victoria Skating Rink, Montreal. Their exhibit is a strictly scientific one, occupying sections seven, eight and nine, immediately under the band-stand. The sections have been neatly grouped together under a canopy, beautifully decorated with palms and other plants, and nicely illuminated with a cluster of Auer lights, their exhibit comprising fluid extracts, solid extracts, powdered extracts, concentrations, sugar and gelatine-coated pills, hypodermatic tablets, ophthalmic tablets, medicinal elixirs, soluble gelatine capsules, hard filled capsules, empty gelatine capsules, taka-diastase, digestive ferments, thyroids, nuclein, nucleinic acid, hydrastis (golden seal) products, anti-diphtheritic serum (diphtheria antitoxin), culture media-gelatine, agar and blood serum, microscopical slides of disease germs, serum syringes, hypodermatic case, disintegration of tablets, saw palmetto, anhalonium lewinii and tuberculin for veterinary use; the centre of attraction apparently being their large and exceedingly scientific display of disease germs, culture media and the serum products. Their anti-diphtheritic serum, marketed in hermetically sealed bulbs, appeals to the progressive physician at once as an ideal package, protecting the product from the air and thus, to a large extent, preventing deterioration. Messrs. Parke, Davis & Co. now have in constant use some sixty immunized horses used in the manufacture of this all-important product. Their display of the golden seal products is also exceedingly interesting, showing the crude root or powdered or ground material, the various alkaloids and concentrations, as well as the liquid preparations made therefrom. They illustrate also as well the disintegration of tablets, an object lesson that is not lost to the busy physician who frequently has not had the desired results from preparations of this class, owing to their method of preparation. Messrs. Parke, Davis & Co. have so improved on the process of manufacture that a tablet dropped into a cylinder of water is in powdered form before reaching the bottom. Mr. Jokichi Takamine, the learned Japanese chemist and discoverer of taka-diastase, is in attendance, and illustrates the great power of this important ferment by actual tests on starch. Prof. F. G. Ryan, of the Philadelphia College of Pharmacy, has charge of their exhibit, ably assisted by Mr. L. C. Layson and Mr. W. J. Wight. Mr. E. G. Swift, their Canadian manager, is also in attendance.

ARMOUR & CO.

Both instructive and attractive was the eminently scientific exhibit of Armour & Co., of Chicago, Ill. It at once captured the attention of the medical profession, whose interest is, by no means, always directed to the more elaborate displays, which, in the end bewilder rather than instruct. Armour's exhibition was really a great object lesson! It furnished a conception of the nature, manufacture and quality of the preparations shown, securing the attention of the observer at once. Drs. J. M. Roberts, of Philadelphia, and S. J. Wimmer, of New York City, who were in charge, did everything in their power to make the display a decided success; and, that they succeeded in their efforts, goes without saying. Their familiarity with the work in hand brought them into immediate touch with their professional brethren. Organo-therapy, bone marrow, nutrient wine, etc., were thoroughly discussed to the evident satisfaction of the hundreds of physicians who visited this department. In connection with this subject, permit us to state that all of the preparations manufactured by Armour & Co., are absolutely free from decomposition products. The proximity of the laboratory to the killing establishment emphasizes this important fact.

MESSRS. SHARP & DOHME,

Manufacturing Chemists of Baltimore, New York, and Chicago, is situated in the central section of the hall, and attracts a good many of the profession. Here a practical demonstration is given to show that Sharp & Dohme's soluble Hypodermic Tablets are really soluble; perfectly and instantly in cold water a tablet is taken from the bottle or tube placed in a test tube or barrel of a syringe, and it dissolves completely almost before one can realize what the operator is doing. This point, combined with the high standard of Sharp & Dohme's preparations, makes their tablets special favorites with the doctors who have not always the time to hunt up hot water and wait the necessary time for other, so called, soluble tablets to dissolve. The firm of Sharp & Dohme has been established since 1860, and caters exclusively to physicians and druggists, believing that it is the fairest and most satisfactory way to work with their friends than to work directly on the public. Their exhibit consists of medicinal extracts, the utmost care being taken in selecting drugs of the best quality, thus insuring uniformity, perfect reliability and a thorough representation of all the medicinal qualities, of each drug employed in an unchanged condition. Their soluble gelatine-coated, sugar-coated pills and granules are made from the best drugs obtainable, excipients are carefully chosen so as to make the pill as soluble as possible, and the quantities and proportions are invariably as represented on the labels. Their Enteric pills are specially recommended, when the remedy is intended to pass through the gastric juice of the stomach intact and dissolve in the intestinal tract. Their Tablet Triturates afford to the physician an easy, economical and accurate method of dispensing medicines in a compact and palatable form, and consist of the respective medicinal ingredients and pure sugar of milk thoroughly mixed and incorporated together by trituration, and are readily soluble or diffusible in water, and the fluids of the stomach. We have not the space to refer at length to the balance of the exhibit, which consists of medicinal elixirs, glyceroles, wines, cordials, syrups, tinctures, ointments, powders, liniments, pressed herbs, roots, barks, flowers, etc., are samples from their regular stock, and are the best than can be found anywhere. Messrs. Sharp & Dohme have made a pill and called it "Lapactic." They have a huge jar of these pills in the centre of their exhibit. They are used as a tonic-laxative, are small active, reliable, perfectly soluble and they never

gripe. With all this in their favour their immense popularity is easily accounted for. Messrs. Sharpe & Dohme have sent one of their staff, Dr. Kent, from the New York office, to meet the physicians from the United States, and the Canadian physicians are being taken care of by Messrs. Henry J. Dart & Co., of 641 Craig Street, Montreal, who carry all their preparations in stock, and are sole agents for Canada.

H. K. MULFORD COMPANY,

Pharmaceutical Laboratories and Office, 412 to 420 South 13th Street, Philadelphia. Biological Laboratory, 3907 to 3911 Eaglesfield Street, Philadelphia. *Concentrated Diphtheria Antitoxin.*—Supplied in two degrees of concentration; ("Special")containing 200 units, and "Extra Potent," containing 500 units, to each cubic centimetre. This serum is from two to five times as strong as the German product, and from five to twenty times the strength of the French. It is preserved with trikresol, in the proportion of one half of one per cent., and produces results from six to ten hours earlier than the weak serums. Antituberculin: The antitoxin for tuberculosis. This is supplied as the results of extentensive researches made during the past three years in our laboratory, and clinical confirmation by many physicians in the United States. It is valuable in all stages of the disease, but is principally applicable before great destruction of tissue has set in. Descriptive literature sent upon application. Tuberculin: For the diagnosis of Bovine Tuberculosis. This is diluted ready for use, and supplied in bottles of from two to two hundred and fifty injections, according to the quantity desired. Mallein: For the diagnosis of Equine glanders. The product is supplied ready for use in vials containing from one to ten injections. Tetanus Antitoxin: For the specific treatment of sub-acute and chronic tetanus in man and in animals, and for immunizing against tetanus. Anthrax Vaccine: For immunizing cattle, horses, sheep, etc., against anthrax infection. One inoculation gives immunity for about six months. It is supplied in tubes containing, respectively, ten and twenty complete doses. Compressed Goods: Tablets, triturates, hypodermics, lozenges, etc.; made of the best quality of drugs obtainable. Full line pharmaceutical products forwarded upon application. Effervescent Lithos Tablets: Entirely new. (Lithium Bitartrate and Sodium Salicylate Effervescent.) Each tablet contains the amount of lithium present in from two to four pints of natural lithia water, and enough acid salicylate and sodium bicarbonate to make two and a half grains of sodium salicylate, when the tablet is dissolved in water. Antitoxin syringes: These are packed in nickel plated cases, so constructed as to permit thorough sterilization of both the case and syringe. The packing is improved vulcanized rubber, so disposed that by turning the piston head the adjustment is perfected at any point in the barrel. Our five cc. is especially designed for the administration of concentrated antitoxin.

GILMORE BROS. & CO.,

Montreal, representing Messrs. Johnson & Johnson, New York; the Upjohn Pill & Granule Company, Kalamazoo and New York; the Horlicks Food Company, Racine, Wis.; Dr. Bengue's Ethyl Chloride. We were going to say the most noteworthy feature of this exhibit was Johnson & Johnson's preparations, but it will be remembered by those who were present, that this firm made very handsome and striking exhibits of their other agencies. In reference to the Johnson & Johnson exhibit they have made a specialty of various surgical plasters in combination with rubber, including belladonna, ammoniac and mercury, salicylic acid, "Canthos" (blister) plaster, surgeon's adhesive

plaster on spools, yard rolls, etc., prepared mustard plasters, isinglass plasters, etc. But what attracted the attention of the profession most was the manner in which they had prepared their cottons, gauzes and various aseptic preparations. Their Linton moist gauzes, plain and medicated, were especially admired, and represented something which are among the very best of their kind. These are put up in air-tight glass jars, and are always ready for use. In addition to this they have a full line of gauze bandages, plaster paris bandages, sulphur fumigators, etc. Upjohn Friable Pills presented a most interesting exhibit. They had these put up in all the best known formulae, representing a list of over 600, including quinine, blauds, cathartic, anti-constipation, etc. A peculiar feature of this exhibit was pills under the thumb and under the hammer, showing the easily friable nature of the Upjohn pills as compared with the old method. While frangibility and solubility are not necessarily synonymous terms, yet one has a feeling that Upjohn's would go to pieces easier in the stomach. Their next exhibit was that of Horlicks Food Company. This is a preparation of malted milk, which has been very well received and highly recommended by the faculty in the United States as an ideal food for infants and invalids, and it certainly seems to be a very admirable preparation.

THE APPOLINARIS CO.

A most attractive display in the exhibit under the auspices of the British Medical Association is that of natural mineral waters. Apollinaris, the queen of table waters, is the well-known legend on many of the bottles, but very conspicuous is Apenta, the best Hungarian bitter water. Apenta belongs to the class of purgative waters, but its action happens to be of a mild and non-irritating character, due to the presence of a large quantity of sulphate of magnesia which exceeds in quantity the sulphate of soda. The former is the milder purgative, and the somewhat crude action of the soda sulphate of other waters is therefore avoided in Apenta, a fact which cannot fail to increase its medicinal value in a marked degree.

DAVIS & LAWRENCE CO., LIMITED,

Montreal, comprising the products of Messrs. John Wyeth & Bro., Philadelphia; Messrs. J. Ellwood Lee Co., of Conshohocken, Pa., and Messrs. The Fellows Medical Mnfg. Co., of New York and London, Eng. On entering the Victoria Rink from Stanley Street one is struck with the two first exhibits on each side of the aisle, which are those of Messrs. John Wyeth & Bro.'s elegant pharmaceutical preparations. The very handsome plate-glass mirrored stands, combined with the different shapes and sizes of cut-glass bottles, lend a most pleasing effect to their well-known goods. Among the specialties exhibited may be mentioned elixir uterine sedative, which is considered almost a specific in the treatment of the various kinds of pain incident to the diseases of the female sexual organs; ophthamlic discs, for the convenient, extemporaneous and efficient treatment of the various affections of the eye. The display of the compressed discs have attracted marked attention from all physicians who have seen them, and as they contain all the medicaments ordinarily used in ophthalmic practice, they are found much more easy of administration in the compressed form. Effervescing lithia tablets are another article on display, and form a valuable addition to therapeutics. Put up in two sizes, three and five grains, they are invaluable in rheumatic diseases, and all complaints resulting from uric acid; they produce a clear solution and are readily soluble. At one of Messrs. Wyeth's tables their attendants dispense their well-known beef juice to the visiting physicians. This beef

juice supplies in a concentrated form a stimulant and restorative almost as prompt as alcoholic drinks, without any hurtful action. Another article which claimed considerable attention was this firm's new effervescing salt caf-acetan, composed of acetonalid, caffeine and bromide of sodium, and we are confident that it will prove a valuable adjunct to the pharmceutical list. Wyeth's well-known malt extract formed also a part of the display, and in connection with this preparation we are informed that, notwithstanding the placing on the market of cheaper preparations under this name, the sale of Wyeth's is steadily increasing, and the quantity put out during the nine months of this year has exceeded the whole output of 1896. Another new preparation which this firm are introducing is powdered thyroid gland, a remedy for obesity. Its success in the United States has been very marked, also put up in tablet form. Besides these specialties, Messrs. Wyeth & Bro. have comprehensive exhibits of the compressed goods, pills, triturates, hypodermic tablets, etc., also elixirs, syrups, wines, fluid extracts, and other goods. In connection with this exhibit a very handsome real seal leather hypodermic case, containing four vials of hypodermics, was presented to the physicians, and was much appreciated by all the recipients. Mr. John J. Howey, head chemist of the Canadian laboratory, was in charge of this section, and was untiring in his efforts to afford all information. The J. Ellwood Lee Co., of Conshohocken, had a very extensive and beautiful display of medical and surgical plasters, absorbent cotton and antiseptic dressings, hospital and physician supplies. The two attractive young ladies who were in attendance at this section lent an additional charm to the exhibit, and the number of physicians who availed themselves of the pleasure of a visit to this collection was evidence of the interest taken in Messrs. J. Ellwood Lee's goods. The style in which all their goods are put up, and the exceptional quality of all the articles, are alone a guarantee A noticeable thing in connection with this exhibit was that all their goods were open for inspection, and could be handled by anyone, and thoroughly examined. This seemed to be appreciated by the profession. Mr. De La Cour, of the home laboratory, did the honors of this section, and was indefatigable in his efforts to instruct all callers. The Fellows Medical Manufacturing Co., of New York and London, had a very tastily arranged display of the syrup of hypophosphites, and distributed several hundred samples to visiting physicians. The peculiar merits of this preparation has won for itself a world-wide reputation, and it has become so favorably known throughout the world that it is prescribed in pulmonary and other diseases by the profession in every country on the globe.

MESSRS. EVANS & SONS, LIMITED,

had an unusually good display. Two features that chiefly attracted us were first, the Benger's food exhibit. This is an English preparation. In reference to this exhibit, we cannot do better than quote the opinion of a few of the leading English journals. *The London Lancet* describes it as "Mr. Benger's admirable preparation." *The London Medical Record* says, "It is retained where all other foods are rejected. It is invaluable." *The British Medical Journal* says, "Benger's Food has by its excellence established a reputation of its own." And we may say that for easy retention and assimilation it is unequalled. The other was the exhibit of Junket tablets by Chr. Hansen's Laboratory, of Little Falls, N.Y., which is drawing quite a lot of attention to it, owing to the fact that it is a novelty, and the only exhibit of its kind ever given in Canada. Junket is one of the most healthful and dainty of desserts, made simply of pure milk. It has the firm-

ness of jelly, but is far more delicate; it is very nutritious, and has the added advantage of being easily digested. It is a most healthful dish for children and invalids, as the milk, being a perfect food, gives all the necessary nourishment, and in a form extremely palatable and readily digested. In cases of exhaustion or of inability to retain other food, a little Junket made with wine or brandy may prove very gratifying and nourishing, and will often be retained by the most delicate stomach. Junket is an old and very popular dish in England, where it is frequently called "Devonshire Junket," people often going from London to Devonshire for it.

MESSRS. LEEMING, MILES & CO.,

Montreal, agents for The Seabury & Johnson Corporation Company, New York; Henry Nestle, Switzerland; Bovinine Company, New York, and Mellier Drug Company, St. Louis, Chas. Marchand's preparations, New York. The exhibit of Seabury & Johnson's preparations was one of the first you met on entering the building from the Stanley Street entrance, and was what would be expected in all lines from the oldest firm in the business. Their exhibit included all forms of bandages, medicated gauzes, and most improved forms of dressings that the surgeon could desire, but a small article which serves as an indication of the progressiveness of this firm, and which attracted much attention, was a cuspidor for the use of consumptives. This is especially apropos when we note the efforts being made by the health authorities to check the inroads of this terrible disease. The Sanitary Cuspidor consists of a square tin box with a lid and handle, the feature being that a folded box of medicated cardboard, that is supplied at a ridiculously low price, was the real receptacle, the tin box being the holder. The intention is that the receptacle shall be burnt after use, thus providing disinfection of the sputa in the most satisfactory manner, *i.e.*, destruction by fire. It would seem that the firm of Leeming, Miles & Company had gathered their exhibits from all quarters of the world, because under handsome pyramids of one product would appear the word "Austria," under another "Italy," under another "China," under another "Switzerland." The name it suggests is Henry Nestle, and "Nestle's Milk Food for Infants." This preparation has been so long and favorably received by the profession that it needs no words of commendation. For purity and excellence it has long held its own, and the firm are indeed fortunate in being representatives of such a favorably received article. Another preparation which they represent, which has received very high words of commendation from the medical press, and which is largely being prescribed by the profession in cases requiring a condensed and easily assimilated food is "Bovinine." As has been stated elsewhere, "Bovinine" is not intended and cannot be made an article of popular self-prescription. As it is not a stimulant, its extended employment in the past has been, and the universal employment to which it is destined will be, dependent altogether on the express authority of attending physicians.

MESSRS. HENRY K. WAMPOLE & COMPANY,

Philadelphia, Pa. As mentioned before, Dr. Warner was with this exhibit, it being in charge of Mr. Froost, the Canadian representative, and gave the physicians an opportunity to see their elegant pharmaceutical preparations, such as "Compound Syrup of White Pine," "Syrup Hydriodic Acid," "Asparoline Compound," "Antiseptic Solution," (Formolid) and all with complete formula attached, so that the physician in every case knows exactly what he is prescribing. They also had very fine specimens of the preparation which has possibly done more to

make this firm known favorably to the profession than any other—their "Syrup Hydriodic Acid," as every physician knows that when he prescribes it he prescribes the first and leading preparation of hydriodic acid, "permanent guaranteed, unalterable."

FAIRCHILD BROS. & FOSTER

made a splendid exhibit of the Fairchild digestive ferments and predigested foods. Practical demonstrations, illustrating the action and utility of the various ferments in many important directions will be submitted—in the preparation of peptonised foods for the sick, and in the modification of cows' milk to a correspondence with mother's milk. This exhibit comprises the well known products originated by Fairchild, representing the several peptic and pancreatic ferments in special practical form. Most notable were Extractum pancreatis, a pure extract of the pancreas, which presents all the active principles of the gland in the form of a dry, whitish powder. Extractum Pancreatis is not an artificial compound. It is absolutely free from all added substances, and contains the ferments as they are naturally associated. Extractum pancreatis, originated by Fairchild in 1881, was the first product offered to the medical profession containing all the pancreas principles in powder form, namely, trypsin, which converts the albumens of milk, beef, etc., into peptons, in either neutral, alkaline, or slightly acid media; diastase, the starch converting ferment; the emulsive ferment, and the milk curdling ferment. Extractum pancreatis is also offered in tablet form, pure, and in various combinations, such as compound pancreatic tablets, pepsin, and pancreatine tablets, etc. Peptonising tubes: The trypsin ferment of Extractum pancreatisis presented in the tubes in a form readily available for the preparation of peptonised milk and other foods for the sick, dyspeptic, etc. Practical recipes, giving simple directions for the preparation of these foods, are offered in convenient form for use with the tubes. Peptogenic milk powder: By means of the peptogenic powder and process, cows' milk is so modified as to conform remarkably in every particular to normal mothers' milk, thus affording a food for infants exactly suited to the functions of infant digestion, and supplying every element of nutrition competent for the nourishment and development of the nursing infant. By the action of the peptogenic milk powder, the albuminoids of cows' milk are converted into the soluble form characteristic of the albuminoids of mothers' milk, and the milk so prepared consequently resembles mothers' milk in digestibility, as well as in chemical composition. Milk prepared with the peptogenic powder by the regular directions, give the infant's stomach just the same work to do as is required for the digestion of mother's milk. Also trysalin, diastasic essence of pancreas, pepsin in scales and powder, essence of pepsin, etc., etc.

MESSRS. WILLIAM R. WARNER, & COMPANY,

Philadelphia, Pa., exhibit with their Canadian agents, Messrs. Kerry, Watson and Company, Montreal. Messrs. Warner's show of their famous pills was as usual very striking. This firm needs no recommendation to the Canadian profession, as their productions have been long and favorably received. Ingluvin: Of the value of this remedy no better testimony could be had than that of Prof. Roberts Bartholow, M.A., M.D., LL.D., who says, in his work on "Materia Medica and Therapeutics:" "Ingluvin —This is a preparation from the gizzard of the domestic chicken—*ventriculus callosus gallinaceus*. Dose, gr. v.—℈ j. Ingluvin has the remarkable property of arresting certain kinds of vomiting—notably the vom-

(Continued on page x.)

iting of pregnancy. It is a stomachic tonic, and relieves indigestion, flatulence and dyspepsia." The author's experience is confirmatory of the statements which have been put forth regarding the exceptional power of this agent to arrest the vomiting of pregnancy. It can be administered in inflammatory conditions of the mucous membrane, as it has no irritant effect. Under ordinary circumstances, and when the object of its administration is to promote the digestive functions, it should be administered after meals. When the object is to arrest the vomiting of pregnancy, it should be given before meals.

W. LLOYD WOOD,

Toronto. The most striking part of this exhibit was one which requires few recommendations, as there is no better known or more favorably received preparation before the profession to-day. We refer to "Listerine," the standard antiseptic. O'Keefe's "Liquid Extract of Malt," for which Mr. Wood is the Canadian agent, is carefully prepared from best Canadian barley malt and English and Bohemian hops. Contains no foreign matter and the lowest possible percentage of alcohol. The fact that Mr. Wood is handling this preparation is one of the best guarantees to the profession of its reliability.

KNY-SCHEERER & CO.,

New York. A simple enumeration of the apparatus present from this Company would take up more than the space at our disposal. They manufacture all the most improved forms of surgical instruments and apparatus. But the most striking part of their exhibit was that connected with the present aseptic method in use in surgical operations. Their operating tables, with glass

McGILL UNIVERSITY, Montreal.

Faculty of Medicine. Sixty-Fifth Session, 1897-98.

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A. G. NICHOLS, M.A., M.D., Assistant Demonstrator of Pathology.
H. B. YATES, B.A., Cantab., M.D., Assistant Demonstrator of Bacteriology.

The Collegiate Course of the Faculty of Medicine of McGill University, begins in 1897, on Tuesday, September 21st and will continue until the beginning of June, 1898.

The Primary subjects are taught as far as possible practically, by individual instruction in the laboratories, and the final work by Clinical instruction in the wards of the Hospitals. Based on the Edinburgh model, the instruction is chiefly bed-side, and the student personally investigates and reports the cases under the supervision of the Professors of Clinical Medicine and Clinical Surgery. Each Student is required for his degree to have acted as Clinical Clerk in the Medical and Surgical Wards for a period of six months each, and to have presented reports acceptable to the Professors, on at least ten cases in Medicine and ten in Surgery.

About $100,000 have been expended during the last two years in extending the University buildings and laboratories, and equipping the different departments for practical work.

The Faculty provides a Reading Room for Students in connection with the Medical Library, which contains over 15,000 volumes.

MATRICULATION.—The matriculation examinations for entrance to Arts and Medicine are held in June and September of each year.

The entrance examinations of the various Canadian Medical Boards are accepted.

The REGULAR COURSE for the Degree of M.D.C.M. is four sessions of about nine months each.

A DOUBLE COURSE, leading to the degrees of B.A. and M.D.C.M., of six years has been arranged.

ADVANCED COURSES are given to graduates and others desiring to pursue special or research work in the Laboratories of the University, and in the Clinical and Pathological Laboratories of the Royal Victoria and Montreal General Hospitals.

A POST GRADUATE COURSE is given for Practitioners during May and June of each year. This course consists of daily lectures and clinics as well as demonstrations in the recent advances in Medicine and Surgery, and laboratory courses in Clinical Bacteriology, Clinical Chemistry and Microscopy.

HOSPITALS.—The Royal Victoria, the Montreal General Hospital and the Montreal Maternity Hospital are utilized for purposes of Clinical Instruction. The physicians and surgeons connected with these are the clinical professors of the University.

These two general hospitals have a capacity of 250 beds each, and upwards of 30,000 patients received treatment in the outdoor department of the Montreal General Hospital alone, last year.

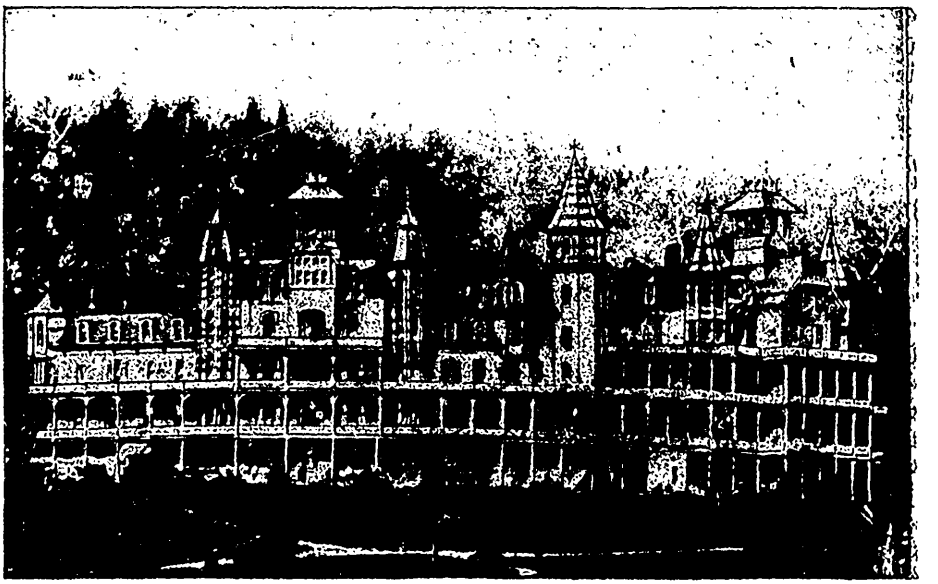
For information and the Annual Announcement, apply to

R. F. RUTTAN, B.A., M.D., Registrar, McGill Medical Faculty.

tops, irrigating stands and surgical instrument cabinets, all manufactured of iron and glass, the iron being white enamelled, formed an exhibit that charmed the eye of the surgeon and commanded the attention of believers in asepsis. Their steam disinfector, which is the most complete apparatus of its kind on the continent, is the invention of Mr. Sprague. The principle of the disinfector is that steam is introduced under pressure, with a vacuum apparatus to secure penetration, and dry dressings after steaming. In most of all steam sterilizers made the effect is simply such as can be produced by steam under pressure, but in the Sprague apparatus, a vacuum is first produced. This allows the steam to penetrate every particle of the material to be disinfected. There is no doubt that this apparatus stands absolutely at the top of its class, and no board of health should think of putting in an apparatus for sterilizing without first communicating with this Company.

ABBEY'S EFFERVESCENT SALT,

Montreal, Que. This is a well-known English preparation, the rights for which have been purchased by the Canadian company, and it is now being produced here. There is no doubt that it is one of the best forms of effervescent saline laxative we have met. One of the leading English health officers, Dr. W. H. Wright, L.R.C.P.I., L.M., M.R.C.S.E., L.S.A.I., says: "I have great pleasure in bearing testimony to your excellent preparation. I have taken it every morning before my cold bath, and it keeps me in the best of health and spirits. I may say by its continued use during the terrible epidemic of La Grippe, I escaped an attack, although often worn out with the extra fatigue and great strain put upon me



WALTER'S SANITARIUM

Walter's Park, near Reading, Pa.

Offers exceptional advantages for the winter treatment of invalids, as well as for the comfortable entertainment of the valetudinarian traveller. Its **Southern Location**; its dry, pure bracing **Atmosphere**, absolutely free at all seasons from malaria, mosquitoes and usually from dew; pure, soft spring **Water** from granite rock springs; its **Climate** said to be "the finest in the world"; its **Scenery** declared by travellers "equal to anything in Europe or America," all contribute to make this a great Sanitarium.

It is not less noteworthy as a **Sanatorium** where sick people may recover health. The building is of Granite Rock, five stories in height, 300 feet front, the product of Canadian genius and work. It is heated by steam and open grates, lighted by electricity, finished and furnished in excellent style. It has hydraulic elevator and extensive appliances for sanatory treatments.

BATHS, MASSAGE, SWEDISH MOVEMENTS (mechanical and manual), ELECTRICITY (Static, Galvanic, Faradaic).

Regularly educated physicians with 25 years' experience with sanatory methods.

We have U. S. money order post office (Walter's Park). Long distance Telephone in connection with READING, PA., and all telegraph offices.

Our tation is WERNERSVILLE, twenty minutes from the Sanitarium, and two hours from READING TERMINAL, PHILADELPHIA.

Terms exceptionally moderate for first-class accommodations.

ILLUSTRATED CATALOGUES FREE.

The value of anything is proved by its imitations Be sure to address correctly.

ROBT. WALTER, M.D.

Walter's Park, Pa.

when grappling with it. It keeps the blood cool and allays fever, and thus keeps the system in a condition of insusceptibility to diphtheria, fever, and other blood disorders. I wish you continued success, and may say that the preparation only wants to be known to be appreciated."

DOLIBER, GOODALE & CO.,

291 Atlantic Ave., Boston, Mass., "Mellins' Food for Infants and Invalids." Mellins' Food is a dry, powdered extract, to be employed in the modification of fresh cow's milk. It is made from wheat and barley malt, after the formula devised by Baron Justin von Liebig, and consists of dextrine, maltose, proteids and salts, and is entirely free from starch and cane sugar. It is prepared for the nursing-bottle by dissolving it in water and adding fresh cow's milk in proportions indicated. It is easily adapted to the varying conditions of every child, and when prepared with milk, it is the nearest approach to mother's milk. Prepared with fresh milk, it is a food that contains the fat, proteids and carbohydrates in a proper proportion, and has the antiscorbutic principle so necessary to the infant. Represented by Mr. Howard Goodwin, and Dr. J. J. Jones.

THE HOT APPLIANCES CO.,

New York. One of the displays that attracted a great deal of attention at the British Medical Association was that of the Hot Appliances Co., of New York, who exhibited their Geyser Hot Appliance, an ingenious little apparatus wherein water is heated by an automatically regulated safety alcohol lamp, flows through a flexible rubber coil and comes back to be reheated. As there is practically no evaporation of the water, it requires no attention except once every twenty-four hours, when the

alcohol lamp needs refilling. This is a decided improvement upon the old methods of applying heat locally, and the advantages of constant heat of any desired temperature, automatically maintained, for hot fomentations, poultices, etc., are too apparent to mention. The Geyser Hot Appliance received the highest commendation of all who examined it.

MESSRS. LYMAN SONS & COMPANY,

380 St. Paul St., Montreal, Que., had a line of surgical instruments, chloride of silver dry cell batteries, Arnold's sterilizers, hospital glassware, Leitz's microscopes, Marsh's Stethophones, and Howard & Sons' fine chemicals, such as camphor, cocaine, quinine, soda bicarb, etc. For a cheap and convenient sterilizer, without pressure, there is no equal to Arnold's. The small amount of water required, the rapidity with which it can be got in operation, and the completeness of its work, has made it part of the equipment of every bacteriological laboratory in the country.

MESSRS. CHARLES GURD & CO.,

39-43 Jurors Street, Montreal, Que. Messrs. Gurd, without doubt, make the finest line of beverages in the country. We had the pleasure of personally inspecting their factory, and the careful handling of all the materials is sufficient reason for the sparkling excellence of these waters. All the water in connection with these

beverages is first filtered through an ordinary sand filter, then filtered by pressure through baked earthern-ware tubes, and finally passed through a Pasteur Chamberland Filter. Any physician who wishes to prescribe any beverages of this kind, would fail in his duty to his patient to prescribe other than Gurd's, for we are certain that for purity and excellence they cannot be surpassed.

GEORGE G. LONDON,

17 Hancock Street, Boston, Mass., representing Holland's Improved Arch Supporter. The astonishing prevalence of *pes planus* or flat-foot is hardly realized by a majority of the medical profession, as in the incipient stages the condition is not sufficiently well-defined to readily determine the diagnosis, and, as the symptoms are almost identical to those of rheumatism, rheumatic gout and rheumatic arthritis of the ankle-joint, the patient is more often treated for the latter instead of the existing trouble. The introduction of the improved Instep Arch Supporter has caused a revolution in the treatment of flat-foot, obviating as it does, the necessity of taking a plaster cast of the deformed foot. The principal orthopedic surgeons and hospitals of England and the United States are using and endorsing these Supporters as superior to all others, owing to the vast improvement of this scientifically constructed appliance over the heavy, rigid, metallic plates formerly used. In appearance this Supporter is very similar to a leather inner-sole, having a combination of flexible steel springs so arranged as to bring a sustaining power under that part of the astragalus which is unsupported by the os calcis, and which, through the failure of the calcaneo-scalphoid ligament to support it, is the cause of *pes planus* or flat-foot. Any physician with one

of these troublesome cases should certainly give this admirable invention a trial.

AMERICAN BISCUIT MFG. CO.,

West and Bethune Streets, New York, J. E. Lewis, representative. This firm showed a very elegant preparation known as "Somatose Biscuit," for dyspepticsandconvalescents,adietand food containing ten per cent. somatose (Friedr, Boyer & Co.) Somatose is a dry extract of wheat which has has had a large sale in Germany, and is one of the standard concentrated wheat preparations in that country. One can scarcely conceive of a more pleasant form of food than this biscuit, it being more agreeable than most ordinary biscuits, and the nitrogenous food which it contains not being at all perceptible to the taste.

FREDERICK STEARNS & CO.,

the most notable exhibits of this well-known firm were: Cascara Aromatic (Stearns'). "Kasagra." The only ful strength fluid extract of Cascara Sagrada, which is not bitter, and which does not gripe. Originated by us in 1889. Cod Liver Oil, Wine of (Stearns'). Containing the alkaloids and active principles of Cod Liver Oil—none of its fatty matter. Extracts, Fluid. Assayed. Among fluid preparations of drugs, fluid extracts are pre-eminently the best. Made, however, as they are, a fluid part to represent a solid part, they must partake of the variability of the drug. Our fluid extracts are prepared by repercolation and expression from select drugs purchased in large quantities from first hands. They are all made without the use of heat, and thus the volatile constituents are all retained and permanency assured. Menstrua of unvarying specific gravity are used throughout the operation, so that all tendency to precipitation is avoided. The finished preparation *is always assayed*, and thus the opera-

tions of the laboratory are checked and errors guarded against. Our fluids strictly represent the drug fluid part for solid parts, and thus are the true equivalent therapeutically of the drug.

MESSRS. DOWN BROS.,

London, Eng., were the only surgical instrument house represented by the Mother Country, which also proved to be the best of that nature in the Museum. Among the numerous exhibits which deserve special mention, being patent antitoxin, hypodermic and exploring syringes, made entirely of metal, which may easily be rendered aseptic, simplicity and immunity from damage being their chief feature. A portable bed cradle designed by a nurse; new cleft palate instruments, by Mr. Arbuthnot Lane; a lighter model of Messrs. Down Bros.' well-known patent lever clamp binaural stethoscopes with improved chest pieces; new empyema tubes, by Mr. Arbuthnot Lane and Mr. Griffiths, of Cardiff; a new and very portable sterilizer for ophthalmic instruments, by Mr. Simeon Snell; new laryngeal forceps, by Drs. Moritz Schmitz and Juracy; laminectomy instruments, by Mr. Victor Horsley; lithotrity instruments, by Mr. Milton, of Cairo, and D. Freyer; new mastoid instruments, by Mr. Ballance, and a complete set by Professor Macewen, of Glasgow; a recently perfected model of Down Bros.' "Desideratum" midwifery bag, which attracted special attention; a new axis traction midwifery forceps, recently designed by Dr. Milne Milne, by which the direction of traction may readily be varied

for the normal as well as abnormal pelvis; a new mouth gag, by Dr. Cock; a most complete form of the Down Bros., patent Morton's ophthalmascope, by Dr. Work Dodd; an aseptic model of the army regulation pocket case, which also proved to be most portable.

THE BALL NOZZLE CO.,

Toronto, Confederation Life Building. A comparison of the Ball Nozzle Syringe with other syringes shows that it has advantages due entirely to the form of the stream itself. The fluid is delivered beyond the extremity of the tube. This is one of the most important attributes necessary to an efficient vaginal syringe, and an attribute which the multiple stream syringe in common use does not possess. The Ball Nozzle Syringe diffuses a soft, gentle, conical-shaped film of water reaching every part of the vaginal cavity, cleansing thoroughly the mouth and neck of the womb and the cul-de-sac, and removing therefrom every particle of foreign matter, the presence of which is the cause of disease, pain and suffering. Its effect is one of gentle bathing, or spraying, rather than one of precussion, such as follows the application of a solid straight stream. This absence of force is absolutely necessary in applications to sensitive organs. The stream is curved in every direction, and is a hollow stream; it is therefore impossible for it to enter a practically straight canal such as the uterine canal.

S. KUTNOW & CO., LIMITED,

41 Fenington Road, London. Kutnow's Improved Effervescent Carlsbad Powder. It speaks well for the energy of this firm that they were

the only English exhibitors who came over directly for the purpose. Mr. Kutnow himself explained the merits of his preparation, but on this point we could have no higher authority than the *British Medical Journal*, which said of it: "It is an improvement upon the ordinary crystalline form of Carlsbad salt in use, as a solution can be readily made by stirring the powder in water. Our analysis of the 'Effervescent Carlsbad Powder' shows that it contains the various salts which are known to exist in the Carlsbad springs. The taste is not unpleasant, so that it can be easily taken, and its action we find to be *mild but efficient.*" All those who tried the powder were united in their praise of it. It is certainly a very superior preparation to the ordinary Carlsbad salts, and should be prescribed wherever they are indicated.

felting. Bleached Cotton Wools, non-absorbent. Grey Cotton Wools. Protective Lint, the finest quality of Lint with an impermeable backing, particularly adapted for the application of ointments and the dressing of minor wounds.

KERRY WATSON & CO.,

Wholesale Druggists and Manufacturing Pharmacists, Montreal and London (Ont.) Martin's Concentrated Cardinal Food, for infants and invalids, has been used for many years with good results. It is prepared from selected wheat flour carefully steam cooked, with the addition of milk and sugar. It is not recommended as an entire substitute for the mother's milk, with young babies, but as an addition of great value, when the mother cannot alone nourish the child. The results from its employment in such cases are eminently satisfactory, the children showing a decided and steady gain in health and strength, and in time Cardinal Food can take the place of all other nourishment. For older babies and children from one to three years old it is a useful and nutritious food, and in the sick room it is a pleasant and strengthening adjunct to the dietary of the invalid.

BOVRIL, LIMITED,

Food specialists, hospital purveyors, and Government contractors, London, England, and Montreal, Canada. Bovril: Is the vital principle of prime ox beef containing the nourishment so conspicuously absent from ordinary meat extracts or beef teas, and this is secured by the introduction of albumen and fibrine, or rather the entire lean beef, dessicated at a low temperature by special process, and subsequently pulverized to a minute degree of subdivision. By this means the entire nourishment of animal food is adapted to the feeblest and most

sensitive system, and perfect assimilation is secured with the least possible expenditure of vital energy. Invalid Bovril: Is specially prepared for use in the sick room, and is put up in porcelain jars. It contains the entire nutritive and stimulative constituents of prime ox beef, and differs from ordinary bovril in being more concentrated and quite devoid of seasoning, solving the great difficulty which all medical men recognize of furnishing substantial nourishment to the system through a debilitated stomach, nature being so effectively assisted that perfect digestion and assimilation is certain. Also bovril beef jelly, bovril lozenges, special emergency foods.

ALEXANDER RIDDLE & CO.,

36 and 38 Commercial Street, London, E., Canadian agents, Arthur P. Tippet & Co., 30 St. Francois Xavier Street, Montreal. Stower's Lime Juice Cordial is an excellent table drink, as it materially assists the digestion and is practically invaluable for dyspeptic dispositions. It is used extensively for gout, eczema, pneumonia, and in all fever and inflammatory cases. Stower's Lime Juice Cordial was the first preparation of the kind ever introduced: viz., in 1862, and as the manufacturers have been engaged solely in the production of this article for over thirty years, they have brought it to a state of absolute perfection for purity, great strength, and perfect flavour.

J. H. CHAPMAN,

2294 St Catharine Street, corner of McGill College Avenue, Montreal, manufacturer and importer of surgeons' instruments, hospital supplies, deformity apparatas, etc., etc.; Canadian agent for Nachet & Fils' microscopes, Davidson Rubber Co., atomizers; Harvard Co., surgeon's chairs:

Advisable always to have a supply in the house.

VIN MARIANI

THE IDEAL TONIC.

Fortifies Nourishes ✻ BODY AND
Stimulates Refreshes ✻ BRAIN

Endorsed by eminent physicians everywhere. Used in Hospitals, Public and Religious Institutions. Sold by Druggists and Fancy Grocers. Mailed Free, album of autographs of celebrities, by

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Sole Agents in Canada for
Gold Lack See Champagne
Wilson's Old Empire Rye
Doctor's Special Brandy

Bottled in Cognac by Boutelleau & Co., and prescribed by the medical profession for invalids' use.

Gaiffe & Fils, electric batteries; R. Hoppe, "Universal" splints. Sargent Manufacturing Co., invalid chairs. Dr. Black, aspirator; exhibit of new instruments of finest quality for general and special surgery; also aseptic syringes for ear, bladder, exploring and serum; microscopes (Nachet, Paris) giving from 30 to 2,600 diameters, etc., etc.

ELI LILLY & CO.,

Indianapolis. Coated pills: The great superiority of Lilly's sugar coating is fully attested by experience, and by its extended use in all climates for a number of years. The improvement made in this direction marks a great advance in this branch of pharmacy, in that it obviates the practice still largely in use of applying a heavy coat of varnish to the pills before putting on the sugar coating. This doubtful expedient is intended to prevent the coloring matter of the pills being absorbed by the coating, thus rendering them unsightly. The method consists in combining such pure and essentially inert substances with the sugar as to produce a permanently snow-white and very soluble coating which is applied directly to the pills, avoiding the use of the insoluble varnish. To the perfect solubility of the coating, the careful selection of materials, the precision to formula, uniformity of size and shape, beauty of finish, and above all, the prompt and satisfactory effect of the pills when taken in the stomach, they are indebted for the great sale they have reached. Lilly's soluble oval-shaped gelatine-coated pills are well-known for their thorough reliability, and are supplied with an absolute guarantee as to accuracy of manufacture and highest attainable quality of material; the handsome, continuous coating renders these pills the most desirable of their class offered. Evans & Sons, Canadian agents.

PATERSON & FOSTER,

21 Phillips Square, Montreal, importers of surgeons' instruments, microscopes and accessories, bacteriological apparatus, etc., etc.; agents for C. Reichert—A superior line of microscopes of all ranges of power. These instruments are well known throughout the world and have been adopted by McGill College, the Royal Victoria Hospital, Montreal General Hospital, and many other institutions in Canada. Fleischl's improved hemometers, thoma hæmacytometers, microtomes and camera lucide, are also exhibited. Pamphlet on application. Sanitary Construction Co: The formaldehyde generators made by the S. C. Co. are of two sizes, a small one with a capacity sufficient to sterilize apartments of 3,000 cubic feet, and a large one provided with pressure gauge thermometer, etc., and an attached apparatus for generating ammonia gas, with a capacity to sterilize 30,000 cubic feet. These generators are shown in detail, the operating being carried on by a representative of the company. The dry gas possesses great power of penetration and diffusion, and undoubtedly destroys all germs of a pathogenic nature with an exposure of five hours. Pamphlet on application.

RADNOR WATER,

Radnor Mineral Springs, Radnor Forges, Que. Headquarters, Canada Life Building, Montreal. Messrs. Drummond, McCall & Co., proprietors. Radnor Water is not only rich in the more important sulphates-chlorides and bi-carbonates, component parts which are of the greatest value in the treatment of stomachic and intestinal disorders, but it also contains in the natural state bromide of sodium, and it is the only mineral water impregnated with this salt—this latter fact alone ought to especially recommend Radnor to the medical world.

DUNCAN, FLOCKHART & CO.,

Edinburgh, Scotland. Agents in Canada, R. L. Gibson, 88 Wellington Street West, Toronto. Chloroform (Duncan's S.G., 1490). Practically non-decomposable under any circumstances. When prepared of this specific gravity, it contains about 1 per cent. of absolute alcohol, but in other respects is identical with our ordinary make (S.G., 1497), which contains about ¼ per cent. of alcohol. While this minute proportion of alcohol in no way affects its anæsthetic powers, it renders the chloroform practically non-decomposable. Chloroform (Duncan's S.G., 1490) is recommended for general use, but unless specially mentioned S.G., 1497 is invariably supplied. N.B.—D. F. & Co. can only guarantee chloroform to be of their manufacture when it is supplied in bottles bearing their label, and having the stoppers sealed with one of their trade-mark stamps. Chloroform (Duncan's S.G., 1497). This is supplied unless S.G. 1490 is specially ordered. Pure.—Prepared entirely from rectified spirit. Methylated.—Prepared entirely from methylated spirit. Also Blaud Pill Capsules, Blaud Pill with Aloes, Blaud with Aloes and Nux Vomica, Blaud with Aloes and Arsenic, Blaud with Arsenic, Cascara Capsules, etc., etc.

HODGKINSON'S ELECTRO-NEUROTONE,

a new Electric Massage Apparatus. Under the above description, the Galvanic Battery Works, 145 Wellington Street West, Toronto, exhibited a most interesting set of apparatus designed for use in applying electricity to the human body. Although an unpretentious exhibit, it was made very interesting by reason of the personal attendance of Mr. Hodgkinson, the inventor, who represented the Electro-Neurotone Co., of London. This gentleman explained the special use and method of application of the

various instruments to medical visitors, and certainly influenced many to adopt the system which, we understand has met with much success in England of late. The instruments are in various classes, and beautiful specimens of colonial manufacture, being made by the Battery Co. under the Canadian patent and by authority of the Parent Co.

ALPHA RUBBER CO.,

Montreal. Air pillows, all rubber, with central partition to form depression for the head. Aprons, operating, of white rubber on fine sheeting, with neck yoke and waist belt, specially adapted for surgeons' use. Atomizers, "Alpha" patent: The special feature of these atomizers is the tube connecting the bulb with the hard rubber spray. It is so constructed as to expand and contract. On this account it forms a self-acting, expelling reservoir, which forces its supply of air forward into the spray. With the Alpha Atomizers an absolutely continuous spray is produced with a minimum of fatigue to the hand. Bed Pans: These will be found to be a great improvement upon the hard pans, as they form a cushion for the patient instead of an unresisting substance. In the oval with tube and oval with extra large outlet, the tube will be found a desirable improvement when emptying the pan. Catheters: The depressed eye of the Alpha Catheter will recommend itself to the profession. The material of which the Alpha Catheter is made is guaranteed not to swell or decompose in urine. Also invalid rings and cushions, ice bags, caps and helmets, operating pads, syringes.

WELCH GRAPE JUICE CO.,

Vineland, N. J. Factories: Vineland, N.J.; Watkins, N.Y. Dr. T. B. Welch, President; Dr. C. E. Welch, Secrtary. Welch's Grape Juice is from choicest Concord grapes, pressed and sterilized

by improved apparatus—delicate straining, extreme clarifying and great cleanliness pervading the whole process. In the grape season, rich, ripe, carefully selected grapes are cleanly pressed, and the juice properly heated in porcelain is hermetically sealed in glass bottles. Only luscious grapes, a clean process, the preventing of the least particle of alcohol, and the skill acquired by years of experience, can produce such beautiful, palatable, healthful juice, retaining to perfection the delicate grape aroma.

PABST BREWING CO.,

Milwaukee, Wis., U.S.A. Pabst Malt Extract, the "best" tonic. This extract of malt is more of a medicinal product than a beverage. The color, flavor and chemical analysis denote the exclusive use of malt and hops in its preparation, besides a perfect system of brewing. It is characterized for its palatability, and contains a very high percentage of attractive matter, which makes it a good food product.

BERNHARD LINDMAN,

Truss Manufacturer, 2418 St. Catherine Street, Montreal. The Lindman Truss.—The only Truss that works on the proper principles. It rests solely upon the pads, and requires no straps of any kind. The pressure can be adjusted to suit any case, either for comfort when at rest, or for safety when undergoing straining exercises.

FARBENFABRIKEN vorm. FRIED. BAYER & CO.,

Elberfeld. This exhibit was in charge of Mr. Taylor, of the Dominion Dyewood and Chemical Co., Canadian agents for Bayer & Co. Mr. Taylor is probably the best posted expert on aniline dyes in Canada. Their chief preparation aside from phenacetin and many other synthetic

products is Somatose. Somatose is made from meat and contains all the nutritive elements of the meat from which it is prepared in an easily assimilable form. Consisting as it does, only of nutritive material in a form which can be directly absorbed by the organism, it is a direct nutritive agent and produces in a very short space of time an increase in the body weight. It is also a very valuable nutritive agent and is of the greatest service in cases of impaired nutrition, children retarded in development, general debility, loss of blood, exhausting diseases, and as a restorative after operations. Brilliant results are reported in chlorosis, anæmia, rickets, in commencing tuberculosis, in the puerperal state, and especially during convalescence. It has been demonstrated that febrile affections run a milder and more rapid course, when somatose is given, it is immediately absorbed and thus the body is protected from waste and loss of power; the duration of convalescence is at the same time sensibly shortened.

BRAND & CO.,

London. This firm had a handsome exhibit of their various beef preparations, as was only to be expected from the oldest house in this line Brand's preparations having been household names with more than two generations of physicians. What chiefly drew our attention was their world-renowned beef essence for invalids. This is one of the most delicate and palatable of nutrients that we have ever seen. On the other hand, with the Klondyke fever on, nothing could approach nearer the ideal concentrated food than their beef tablets. The merits of the various preparations were explained by Mr. H. V. Robinson, of the home firm, who made many friends among the visiting physicians.